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## **HUMANS NEEDED**

Work is changing due to automation and AI, but it's not going away. Based on the major macroeconomic, political, demographic, societal, cultural, business and technology trends observable today, we propose 21 new jobs that will emerge over the next 10 years and will become cornerstones of the future of work.

FINANCIAL FITNESS COACH • VIRTUAL STORE ARCHITECT • 3D PRINTING ENGINEER • VIRTUAL PROJECT EXPERTS/"SOMMELIERS" • IMMERSION OVER LAYERS • AR JOURNEY SCENARISTS UXWRIGHTS/CXWRIGHTS • SMART HOME TECH SUPPORT • GENETIC MIXOLOGIST • ORGAN CREATORS • HUMAN NURTURERS • NANO BOT ENGINEERS • GENETIC DOPING PATHOLOGIST • SMART CLOTHING SPECIALIST • FITNESS COMMITMENT COUNSELLOR • WALKER/TALKER • MICRO ENERGY SPECIALIST • AGRICULTURAL GENE SPECIALIST/DNA ENGINEER • ALGAE FARMERS • INSECT BREEDERS • METHANE CONVERSION SPECIALISTS • APPLIANCE ENERGY INCENTIVE REPRESENTATIVE • ENGLISH AS A FOREIGN LANGUAGE FOR ROBOTS • AI ASSISTED HEALTHCARE TECHNICIANS • AUTONOMOUS FLEET ATTENDANTS • SPACE CONTROLLERS • AI TRAINER • EXPERIENCE CURATORS • DEMENTIA SPECIALISTS • ARTISAN CYBER MAKERS • AUTONOMOUS TRAVEL CASE LAW • GENE MODIFICATION CASE LAW • EQUALITY CASE LAW • GENETIC DOPING ARBITRATION • "SOMMELIERS" • IMMERSION OVER LAYERS • AR JOURNEY SCENARISTS • EMOJI/FILTER/AVATAR DESIGNERS • BIG DATA AS A SERVICE FOR INDIVIDUALS • AI AUGMENTED SOCIAL CAREER COACH • PERSONAL DATA

NOVEMBER 2017

PERSONAL DATA MONETIZER • GIG NEGOTIATOR • REMOTE DIGITAL STORE AUTONOMOUS FLEET ATTENDANTS • SPACE CONTROLLERS • AI TRAINER • EXPERIENCE CURATORS • DEMENTIA SPECIALISTS • ARTISAN CYBER MAKERS • AUTONOMOUS TRAVEL CASE LAW • GENE MODIFICATION CASE LAW • EQUALITY CASE LAW • GENETIC

# Introduction

Concern about a “jobless future” has never been greater. Seemingly every day, an academic, researcher or technology leader suggests that in a world of automation and artificial intelligence (AI), workers will increasingly be a surplus to what businesses need – or as Stanford University’s Jerry Kaplan says in his best-selling book, it won’t be long before “humans need not apply.”<sup>1</sup>

The concerns are understandable. AI – long academic theory and Hollywood plotline – is becoming “real” at an astonishing pace and finding its way into more and more aspects of work, rest and play. AI is now being used to read X-rays and MRIs. It’s at the heart of stock trading. Chat with Siri or Alexa, and you’re using AI. Soon, AI will be found in every job, profession and industry around the world.

When machines do everything, lots of people wonder what will we do? What work will be left for people? How will we make a living when machines are cheaper, faster and smarter than we are – machines that don’t take breaks or vacations, don’t get sick and don’t care about chatting with their colleagues about last night’s game? For many people, the future of work looks like a bleak place, full of temporary jobs (a “gig” economy), minimum wage labor and a ruling technocracy safely hidden away in their gated communities and their circular living machines.

Although plausible, this vision of the future is not one we share. Our vision is quite different – and much more optimistic.

Our vision is based on a different reading of the trends and the facts; a different interpretation of how change occurs and how humans evolve. Our view of the future of work is based on the following principles:

- I Work has always changed.** Few if any people make a living nowadays as knocker-uppers, telegraphists, switchboard operators, computers (the first computers were people), lamp-lighters, nursemaids, limners, town criers, travel agents, bank tellers, elevator operators or secretaries. Yet these were all jobs that employed thousands of people in the past.
- I Lots of current work is awful.** Millions of people around the world do work they hate – work that is dull, dirty or dangerous. Rather than trying to keep people in these jobs, we should liberate them to do more fulfilling, more enjoyable, more lucrative work. We shouldn’t have a “pre-nostalgia” for the mortgage processor in the way that some people are nostalgic about miners and steelworkers (people who typically weren’t miners or steelworkers, it goes without saying).
- I Machines need man.** Machines can do more, but there is always more to do. Can a machine (in its software or hardware form) create itself, market itself, sell itself? Deliver itself? Feed itself? Clean itself? Fix itself? Machines are tools, and tools need to be used. By people. To imagine otherwise is to fall into the realm of science-fiction extrapolation.

- **Don't underestimate human imagination or ingenuity.** Our greatest quality is our curiosity. We want to know what's around the riverbend. How it works. What it means. How we can make it better. In an age of intelligent machines, man will continue to want to explore – and make – what's next. Doing so will be the source of new work ad infinitum.
- **Technology will upgrade all aspects of society.** Many aspects of modern societies are still far from perfect. Is our healthcare system as good as it's ever going to be? The way we bank? How we educate our kids? Insure our houses? Board an airplane? Of course not. Technology – which is still, in truth, peripheral to many aspects of our work and our lives – is set to become central to how we do everything and, in the process, make the services and experiences we want much, much better. And, in doing so, it will also impact how we occupy our time.
- **Technology solves – and creates – problems.** The guilty little secret of the technology world is that every solution begets a problem. Fix A, and then B goes on the fritz. Develop C – which is a great new thing – and then realize you've also created D – which is a terrible new thing that needs fixing. Intelligent machines will address many problems in society (see above), but in doing so, they will also create lots of new problems that people will need to work on addressing. Work that they will monetize. The work ahead goes on forever. Wash, rinse, repeat.

In the future, work will change but won't go away. Many types of jobs will disappear. Many workers will struggle to adjust to the disappearance of the work they understand and find it hard to thrive with work they don't understand. Wrenching transformations – which is what the future of work holds for us all – are never easy. But a world without work is a fantasy that is no closer to reality in 2017 than it was 501 years ago upon the publication of Thomas More's *Utopia*.

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## WHAT THE NEXT 10 YEARS WILL BRING: NEW JOBS

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In this report, we propose 21 new jobs that will emerge over the next 10 years and will become cornerstones of the future of work. In producing this report, we imagined hundreds of jobs that could emerge within the major macroeconomic, political, demographic, societal, cultural, business and technology trends observable today, e.g., growing populations, aging populations, populism, environmentalism, migration, automation, arbitrage, quantum physics, AI, biotechnology, space exploration, cybersecurity, virtual reality.

Among the jobs we considered, some seemed further out on the horizon and are not covered here: carbon farmers, 3-D printing engineers, avatar designers, cryptocurrency arbitrageurs, drone jockeys, human organ developers, teachers of English as a foreign language for robots, robot spa owners, algae farmers, autonomous fleet valets, Snapchat addiction therapists, urban vertical farmers and Hyperloop construction managers. These are jobs that younger generations may do in the further off future.

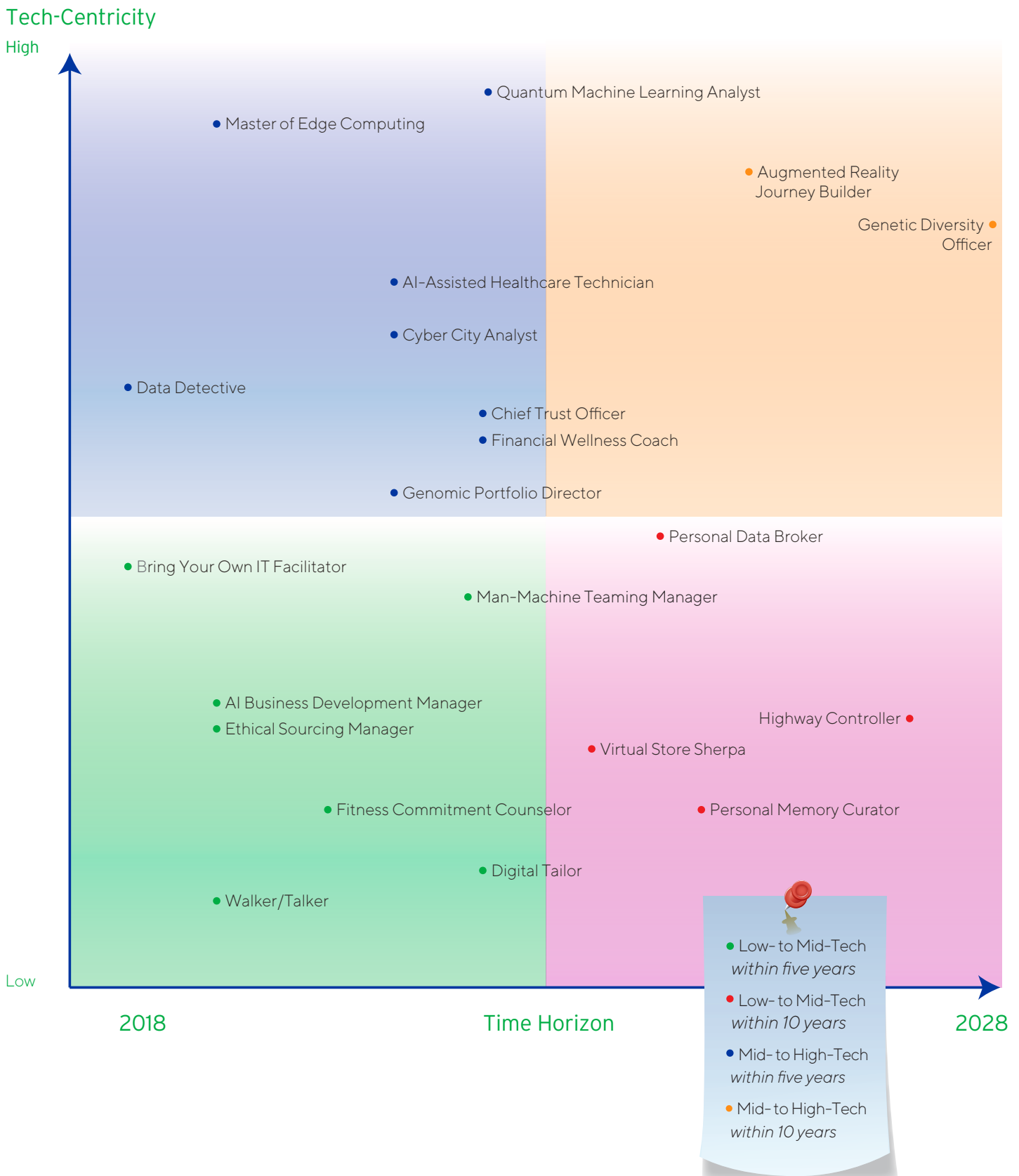
Others that we considered are somewhat niche forms of employment – e.g., tattoo removal artist or e-gaming sportsman – that will employ only hundreds of people. Those jobs, while interesting, are not covered here. Similarly, jobs that are already well understood and well developed, and which are set to boom in the short-term future – e.g., cybersecurity developer, cloud computing programmer – are also not covered in this report.

The 21 jobs we present here are those that we expect to become prominent in short order. Most importantly, we believe these jobs will create mass employment, providing work for the many people in offices, stores and factory floors displaced or disrupted by technology.

Our 21 jobs of the future are positioned over a 10-year timeline and according to their “tech-centricity” (see diagram, next page). Each is presented in the form of a job description. They’re not science fiction – they’re jobs your HR department will have to fill before very long. Some are highly technical, while others won’t require much tech knowledge at all. (Some may insist that one day all jobs will be tech jobs, but we don’t agree, and that certainly won’t be the case in the next 10 years.)

Work has been central to mankind for millennia. Our very names convey that fact: Baker, Brewer, Glover, Woodman, Wright, Mason, Judge, Weaver, Hunter, Dyer, Fisher. In the future, work will continue to be core to our identities, our nature, our dreams and our realities. But it won’t necessarily be the work we know or do now. Read on to examine the new jobs that will be central to the future. You never know, one day you might be doing one of them.

# 21 Jobs: The Road to 2028



● Low- to Mid-Tech within five years  
● Low- to Mid-Tech within 10 years  
● Mid- to High-Tech within five years  
● Mid- to High-Tech within 10 years

We present our 21 jobs of the future in the order in which we expect them to appear. Each job is displayed in the form of a job description, similar to those your HR organization will soon need to write. We've also color-coded all the jobs to reflect their level of tech-centricity.

MID- TO HIGH-  
TECH

# Data Detective

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## POSITION SUMMARY

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Enjoy *CSI*? *Hawaii Five-O*? *Sherlock*? Get a kick out of running down leads, ruling out suspects and solving whodunits? Then we have the job for you! We're looking to hire creative, talented individuals who can help us investigate the mysteries in our big data. What is our data telling us? What secrets does it contain? Every day we uncover new clues concerning the future of our work. Come join the growing team that asks the tough questions and comes up with the "big answers."

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## OVERALL REQUIREMENTS

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The Data Detective Department (D3) sits within our Data Science Unit as part of the Group CIO Office. As a member of D3, you will work with individuals and teams across our organization to generate meaningful business answers and recommendations from the investigation of data generated by Internet of Things end points, devices, sensors, biometric monitors, traditional computing infrastructure, next-gen fog, mesh, edge, neural capabilities, etc. Currently, much of the data we collect in these areas goes unexamined. The successful candidate(s) will "go where the data is" and pursue what the data is saying. Candidates should be curious, relentless, resilient and diplomatic but never take no for an answer.

Although you will be expected to use the latest tools of the big data trade, you do not need to be a data scientist to thrive in this role. D3 employees need to be equally comfortable with being "in the weeds" and with seeing and explaining the big picture.



**HELP  
NEEDED,  
APPLY  
WITHIN**



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The successful candidate(s) will “go where the data is” and pursue what the data is saying. Candidates should be curious, relentless, resilient and diplomatic but never take no for an answer.

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## SPECIFIC RESPONSIBILITIES

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- **Embed in departments and teams:** Work alongside colleagues in different parts of the business to help them solve their problems. Much of this can be done virtually but will often require physical co-location with local teams.
- **Examine data:** Identify and examine existing data sets generated from multiple sources (e.g., office environmental sensors, finance function spreadsheets, etc.).
- **Find new sources of data:** Uncover data sources that are not yet being leveraged (e.g., car parking data, office supplies replenishment rates, etc.).
- **Ask questions of data:** Examine data to surface existing answers and generate new questions.
- **Ask questions of people:** Work with staff members to find and generate new questions and new answers that are currently unknown (e.g., “In an ideal world, what would you like to know?” “What new information would help you do your job better?”).
- **Work data sources:** Use each new source of data to generate the next source of data.
- **Triangulate different data sources:** Mix, compare/contrast and analyze data sets from multiple data sources. Pursue cross-departmental, company-wide investigations and solutions.
- **Write reports and present findings:** Create written reports of investigations and recommendations, and develop effective presentations of the findings.

- **Keep abreast of general developments in data science:** Understand the range of technical tools available to support the D3 team’s work.
- **Understand the competitive environment:** Develop an awareness of competitive trends, such as what competitors are doing in the D3 arena.

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## SKILLS & QUALIFICATIONS

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The ideal candidate will come from the following areas and backgrounds:

- Experience in law enforcement, ideally investigative work.
- Legal background, either as a trained attorney, lawyer, barrister or paralegal.
- Training or academic qualifications in data science and data science technologies. (Please note this is not mandatory but welcome.)
- Knowledge/expertise in “civilian” data science reporting tools (e.g., Tableau, Domo, etc.).
- Qualifications in math and/or general sciences (e.g., physics).
- Qualifications in any branch of finance and management accounting.
- A degree in math, a physical science, philosophy, economics, law or accountancy would be advantageous.

*Please note that entry-level positions are also available in D3. Candidates without the above background, but who demonstrate interest in data, detective work and math, and possess the personal characteristics listed in the “Overall Requirements” section, are encouraged to apply.*

LOW- TO MID-  
TECH

# Bring Your Own IT Facilitator

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## POSITION SUMMARY

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Our organization seeks an experienced business-IT professional to fuse our shadow-IT operations with our digital workplace strategy. The ideal candidate will lead the creation of a work environment that exploits digital trends, encourages shadow-IT innovation and positions IT as a “preferred partner.” The goal is to create an automated self-service platform that lets users select the desired applications, as well as build virtual assistants to improve employee agility, productivity and engagement, while maintaining data control, security, governance and compliance.

The person in this role will create a system for uninterrupted visibility into on- and off-premises environments, mobile and desktop systems, and applications and services consumed by corporate users, including employees, customers and contractors. The BYOIT facilitator will enable the entire workforce to work better and smarter at a known level of acceptable risk.

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## OVERALL REQUIREMENTS

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Technology is now fundamental to our company’s success in driving massive shareholder value. As a result, our shadow-IT operation is now official, sanctioned and, in many cases, necessary. We see the growth of shadow-IT as an immense opportunity for IT to collaborate with business units and individuals who have mastered the art of working without IT. At our company, IT’s role is no longer limited to building and maintaining systems; instead, it is providing flexibility to business users for the use of applications and infrastructure regardless of whether they are created in-house or sourced through the cloud.

As a key member of the IT organization, you will promote automated self-service, collaboration and knowledge-sharing to propel user experience. Your goal will be to provide business users with the flexibility to compile their own mobile and collaborative environments, while preserving centralized control for IT. To excel in this role, you should be comfortable challenging the status quo and striving for continuous improvements in business and IT. You will work across organizational and specialist boundaries to ensure the appropriateness of requirements and solutions to integrate shadow-IT into the mainstream. The ideal candidate will be knowledgeable in the latest software and have an understanding of how the latest favored apps will affect the business.



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We see the growth of shadow-IT as an immense opportunity for IT to collaborate with business units and individuals who have mastered the art of working without IT.

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## SPECIFIC RESPONSIBILITIES

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- **Perform an honest shadow-IT assessment.** A discovery process and infrastructure audit will help assess the opportunities and risks involved.
- **Work closely with the digital workplace team** to define, develop and influence workplace strategies to enhance employee engagement, agility and collaboration.
- **Work closely with colleagues in the IT infrastructure, operations and enterprise security teams** to develop and design roadmaps, implementation strategies and transformation plans for shadow-IT.
- **Provide preapproved, low-code platform as a service (PaaS) platforms** to business users to help them create and configure their own department and cross-department apps in minutes.
- **Run innovation hackathons** to identify the best apps and technologies in use across the organization and work with people to optimize them.
- **Implement a governance, risk management and compliance (GRC) strategy** that focuses on business assurance.
- **Organize and lead a shadow-IT steering group** to plan and govern workplace initiatives across the organization, as well as conduct quarterly user satisfaction surveys and share best practices, while reviewing program progress.

- **Develop, maintain and deliver education and training materials** to both business and IT functions, highlighting the benefits and challenges involved in shadow-IT, which might include case studies, guidance or e-learning techniques.

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## SKILLS & QUALIFICATIONS

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- A master's degree in either IT, computer science, engineering, natural science or business administration is required.
- At least five years of proven experience in a globally oriented IT team or consulting company, with exposure to IT demand management, business management, infrastructure services and/or network services, including two-plus years of managerial experience.
- Advisory and delivery expertise to help achieve the goals.
- Excellent presentation, training and coaching skills, with the ability to engage, influence, train and persuade others at all levels.
- Experience leading cross-functional teams and organization-wide programs, operating and influencing effectively across the organization and within complex contexts.

LOW- TO MID-  
TECH

# Ethical Sourcing Officer

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## POSITION SUMMARY

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Our organization seeks an individual to lead ethical sourcing initiatives within our company. The ideal candidate will head up our ethical sourcing team and ensure the allocation of corporate income aligns with the standards set by our stakeholders (customers and employees), codified through the corporate ethics board. The role covers three major categories of indirect ethical spend: energy, waste and community sponsorship. The ethical sourcing officer will investigate, track, negotiate and forge agreement around the automated provisioning of goods and services to ensure contractual alignment with the ethical wishes of our stakeholders.

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## OVERALL REQUIREMENTS

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As ethical sourcing officer, you will ensure the company's indirect expenditure is allocated according to the standards set by the ethics board, of which you will also be a member. The ideal candidate will use his or her digital procurement, audit and innovation skills to carry out the ethical mandate of the company, develop indirect category expertise, and track and test the huge number of suppliers that could potentially supply goods and services. The role requires periodic adjustment and fine-tuning of category algorithms in line with the ethics board, as well as maintenance of a crypto-register of contracts and opportunities.

Traditionally, the ethical sourcing officer's area of specialty determines the volume of crypto-spend managed. The categories in this particular instance focus on energy provision, waste management and local community funding. You will check the ethical integrity of every contract and its supply chain, build scenario planning initiatives, design real-time experiments and review data traces to ensure supply chain integrity and corporate fit. You will also lead negotiations around contractual terms and conditions (including carbon offsetting) and monitor the market for ethical innovation.

The successful candidate will exhibit passion and drive for the categories under control, and will be knowledgeable of innovations in his categories, with a demonstrable desire to lobby on the company's behalf to steer the category supply chain in the organization's direction. You will need to be able to channel market intelligence upstream to the various forums, entrepreneurs and providers in order to trigger ethical behaviors in line with corporate goals. You will also be expected to play an active role in "market transmission," ensuring the signals from the board are received, registered and acted upon.

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## SPECIFIC RESPONSIBILITIES

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- **Be an active member of the ethical board.** Maintain the ethical footprint of the company by participating, shaping and executing directives from the ethics board.
- **Augment ethical sourcing strategies.** Drive stakeholder engagement and reconfigure category input depending on stakeholder input through quarterly panels and feedback loops.
- **Define category redlines.** Determine a priority list of redlines that guide indirect purchasing and supplier behavior.
- **Undertake category research.** Gather, analyze and interpret information about a category, with an emphasis on market interlocks and extended automated supply chains.
- **Create specific category plans.** Generate a long-term plan (three to six months out) and strategy for the category (e.g., micro-energy generation or community credit swaps).
- **Oversee a team of analysts.** Lead a team of category analysts to provide the information needed to make the category plan a success.
- **Negotiate, agree and check delivery.** Buy and sell services and monitor the integrity of services provided, as well as regularly test data feeds to ensure accuracy.
- **Update key metrics for client review.** Benchmark categories for service sustainability, corporate ethics and the community value-add and deliver this information to the ethics board.

- **Liaise within the provider community.** Market and promote consumer signals to entrepreneurs and other forums to drive alignment.
- **Provide insight on ethical positions.** Run dashboard queries and information interpretation for the ethics board and other stakeholders. Build scripting and querying tools in support of this information.
- **Evaluate category information feeds.** Oversee automated information feeds and work to interpret consumer demand with market signals.

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## SKILLS & QUALIFICATIONS

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- Proven ability to define ethical behavior within the context of corporate objectives.
- Educational background or experience in business, law, governance or philosophy preferred.
- Excellent communication and interpersonal skills.
- Ability to work well on a team.
- Strong analytical skills.
- Commercial awareness.
- Ability to adapt to different client needs and develop and maintain successful working relationships.
- Flair for negotiation and networking.
- Tact and diplomacy.
- Thirst for innovation.

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The ideal candidate will use his or her digital procurement, audit and innovation skills to carry out the ethical mandate of the company, develop indirect category expertise, and track and test the huge number of suppliers that could potentially supply goods and services.

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LOW-TO MID-TECH

# Artificial Intelligence Business Development Manager

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## POSITION SUMMARY

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As one of the leading worldwide providers of AI-driven computing services, we offer a range of products and services, from raw computing infrastructure to e-commerce platforms. If you've used a computer recently or bought something online, you've probably used our services without even knowing it. Increasingly, our services are created with and managed by AI. Although we have thousands of human IT developers, AI is increasingly at the heart of our product development efforts.

However, there is still one thing that AI cannot do, and won't be able to do for the foreseeable future – *sell itself*. Selling AI (whether in its "raw" compute form or packaged into a business service) requires human input and effort. We are looking for AI business development professionals to join our best-in-class team and be at the forefront of advances in computer science and business advantage.

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## OVERALL REQUIREMENTS

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The AI business development manager (BDM) will define, develop and deploy effective and targeted programs to accelerate broad-based sales and business development activities. In this role, you will enable sales and solution architects with a specific customer-centric AI value proposition and will directly interface with product management and development teams regarding customer and partner requirements.

You will work closely with sales, marketing and partner teams to position AI services for customers and partners, and provide guidance on the value proposition and benefits achievable with our AI services, platforms, frameworks and infrastructure. In addition, you will define and drive a process that the organization will follow to accelerate sales and partner-management engagement on AI customer and partner opportunities.

As AI BDM, you will also be responsible for synthesizing data and information gathered from these engagements into succinct findings, as well as deriving strategic insights and persuasively communicating findings and perspectives to the product and sales teams, including senior management.

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AI is increasingly at the heart of our product development efforts. However, there is still one thing that AI cannot do, and won't be able to do for the foreseeable future – *sell itself*.

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## SPECIFIC RESPONSIBILITIES

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- **Define, build and deploy** enterprise-focused sales and business development campaigns around the AI services offering.
- **Engage, support and scale** business development and sales teams across the organization to be capable of delivering the AI value proposition to enterprise customers and partners.
- **Engage and drive scale** in programs that educate enterprise customers and partners directly about the AI value proposition.
- **Exhibit proactive ability and expertise** in setting customer discussions via sales and partner teams.
- **Exhibit cloud-managed services or AI expertise** with handling and scaling sales campaigns with enterprises and enterprise partners.
- **Drive field and partner readiness** for enterprise customers.
- **Engage in senior-level customer meetings** to discuss customers' business issues and explore how our AI platforms can help address and resolve these issues.
- **Serve as an evangelist** for the AI services within our organization and externally.
- **Develop a standard market intelligence framework** and dynamic analytic model to be

utilized by the sales, business development and marketing teams.

- **Establish ways to measure and track metrics** related to adoption of the AI services and platforms, and make improvements to the approach based on those measurements.
- **Prepare and provide business reviews** to the senior management team regarding progress and metrics.

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## SKILLS & QUALIFICATIONS

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- Five-plus years of business development, enterprise sales, strategic partnerships or program/product management experience.
- Experience selling to Fortune 1000 and/or Global 2000 organizations.
- Business-level experience with AI/machine learning software platforms.
- Experience with cloud computing and/or related fields (IT, software, etc.).
- MBA or equivalent relevant business experience.



MID- TO HIGH-  
TECH

# Master of Edge Computing

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## POSITION SUMMARY

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We are a Fortune 500 company seeking an outstanding candidate to build the smart infrastructure capabilities for edge computing. Reporting to the CIO, the master of edge computing (MoEC) will define the IoT roadmap, carefully evaluate the technical requirements and assess the feasibility for establishing the edge processing unit and measure the return on investments.

The winning candidate will be responsible for creating, maintaining and protecting the edge computing environment. In particular, the MoEC will design and develop the hardware and software, overhaul the existing network infrastructure for reliability, efficiency and latency, and balance load-shifting across the network and interconnecting networks. In addition, the MoEC will establish the cloud-edge relationship by differentiating which types of data should be stored where, ensure the scalability of the solution and address geographical challenges for the edge (metro vs. semi-urban vs. rural and for mobile devices).

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## OVERALL REQUIREMENTS

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With increased connectivity, our organization is experiencing escalating data volumes, requiring unlimited storage and processing capacity. Moreover, real-time decision-making is increasingly becoming a business must-have. The current wheel-and-spoke Internet model, with individual products feeding into massive centralized data centers that then process the information at warp speed, is no longer tenable. Edge computing unleashes the potential of connected hardware devices by decentralizing them to become the data center themselves. It provides an isolated node to the object, which has a stand-alone processing and storage system and built-in analytic capabilities.

As the MoEC, you will help us overhaul the full-scale infrastructure to ensure the new technology seamlessly interacts with legacy systems, minimizes latency and delivers the required business benefits. In this position, you will ensure IT readiness for processing, analytics and operations/communications protocols, as well as smooth network functioning, uninterrupted supply of power, cooling, 24x7 monitoring and security/access. Using real-time insights, you will be an essential player in improving our ability to do business, generate value, make decisions, meet customer expectations, and get products and services to the market.



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## SPECIFIC RESPONSIBILITIES

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- **Define the business impact** of edge computing to justify up-front investments.
- **Build micro-modular data centers** with one or two racks in a unit to provide connectivity and intelligence to the devices.
- **Ensure the compatibility and integration** of edge computing devices/micro data centers with legacy systems.
- **Build a software-defined networking infrastructure** to enable data to be processed at the edge through intermediate nodes and, where this mode is used, back into a cloud core.
- **Develop strategies for the supervision, maintenance and protection** of the edge computing system.
- **Define a data priority matrix** (which data gets priority across the network). Also, define data ownership and rights to proactively address data privacy issues.
- **Build infrastructure immunity** at the core by applying machine learning and ensuring zero-latency response against cyber-attacks. Develop an emergency response protocol (akin to the emergency call feature on a mobile device without needing to unlock it) into the edge to protect against an unwanted intrusion.
- **Work with larger interconnected colocation players** and telecom providers to lay the foundation of the edge computing network infrastructure.

- **Develop a user-friendly system** that can act as a means of identifying and communicating with devices and users on the edge, while ensuring mobility and security.
- **Outline, test and scale** the role of containers at the edge.
- **Facilitate the creation of new products and services** built purely on real-time data.

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## SKILLS & QUALIFICATIONS

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- A Ph.D. in computer science, electronics, telecommunications, electrical engineering or a related subject relevant for the position. Insights into systems modeling and knowledge of distributed architectures are required.
- Significant experience working on IoT hardware and software platforms. Applicants with knowledge of industrial IoT implementations and best practices are particularly sought.
- Experience in one or more of the following areas is required:
  - Embedded systems development.
  - Wireless sensor networks.
  - IoT security and protocols.
  - Real-time software development.
  - Deep learning in distributed systems.
- Ability to conceptualize, specify, architect and design cloud- and edge-computing-based environments.

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As the master of edge computing, you will help us overhaul the full-scale infrastructure to ensure the new technology seamlessly interacts with legacy systems, minimizes latency and delivers the required business benefits.

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LOW-TO MID-TECH

# Walker/Talker

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## POSITION SUMMARY

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In this technology-rich era, AI and automation are performing more jobs, and people are living longer. As a result, there is a pressing need for both the unemployed/underemployed to find new types of work and for the elderly to have companionship. Our company – 2E1M – solves both these problems at once by connecting seniors with conversational companions in the comfort of their own home and, for our more mobile customers, a person to walk and talk with.

If you enjoy interacting with and, most especially, *listening* to your fellow human beings, then this may be the job for you. Using our CONNECT platform, you can sign on or off at your convenience (in the way that Uber drivers do) and work whenever it suits you. In this way, you can work for 2E1M as part of a portfolio of employment roles. CONNECT – with its AI-driven listening software (part of the phone-based app employees leverage) – provides conversational prompts based on previous conversations, providing continuity of service among multiple walker/talkers who engage with our customers. There are no strangers when you are CONNECTed.

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## OVERALL REQUIREMENTS

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One of the most precious resources in our time-constrained world today is attention. By becoming a walker/talker – when there are so many sources of entertainment and distraction constantly available and so many demands on our time – you will tap into one of the greatest sources of value a human being can provide. Our “Two Ears – One Mouth” (2E1M) philosophy allows our customers to enjoy engaging in the world again and to break the curse of isolation that bedevils so many seniors whose families are geographically dispersed, whose partners have died and who know few people in their local community. Our customers either pay for these services themselves or through subsidies and public sector funds. Academic research has demonstrated that engaged and energized seniors are twice as healthy as those who spend most of their time alone; health cost savings generated by our services more than pay for themselves.

As a walker/talker, you’ll spend time with customers (typically on an hourly basis), following our recommended protocol of a 10-to-1 listening-to-talking ratio. The ideal candidate will be skilled at listening, responding and prompting further conversation rather than dominating or leading the conversation. Your main task as a walker/talker staff member is “paying attention.”

By becoming a walker/talker – when there are so many sources of entertainment and distraction constantly available and so many demands on our time – you will tap into one of the greatest sources of value a human being can provide.

#### SPECIFIC RESPONSIBILITIES

- **Talking** with customers.
- **Walking** with customers. (This may involve handling a customer's dog.)
- **Listening** to customers.

#### SKILLS & QUALIFICATIONS

- Any type of work background and life experience will be considered.
- Ability to pass a police-approved background check.
- Comfortable using phone-based apps, Apple Watch-type of devices and wireless earbuds.
- Ability to travel to customers' homes if necessary.
- Excellent time management and follow-through skills.



LOW-TO MID-TECH

# Fitness Commitment Counselor

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## POSITION SUMMARY

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The obesity epidemic is responsible for 300,000 deaths per year, on average, in the U.S. Robots and digital fitness trackers can help, but they can't do it alone. Accountability to another person is a powerful human response to motivate physical activity, improve nutrition and adopt a healthier lifestyle.

We're looking for thousands of remote fitness commitment counselors and dietary nurses to provide one-on-one daily, weekly and biweekly remote coaching and counseling sessions that help improve wellness for "instrumented participant patients," all of whom have been voluntarily outfitted with wearable smart bands to monitor their physical activity. The success of our voluntary programs is based on personal commitment, technology, incentives and coaching.

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## OVERALL REQUIREMENTS

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Whether you live in Oklahoma, Oakland or the Okefenokee Swamp, if you're a registered nurse or credentialed fitness coach with access to WiFi, this is the job for you. Using our platform, you will help patients stay abreast of best practices and fitness hacks, including personalized three-minute learning exercises, suggestions for outdoor "play spaces" and techniques for calibrating patient preferences to boost optimal engagement levels.

Your assigned participants will reside anywhere in the country, but we strive to align dialect and personality types as much as possible. Whether you speak Spanish, English or Urdu, your unique dialect is highly valuable; harnessed with your empathy, connection and motivation skills, it can be critical to the role. Successful candidates will place a premium on genuine empathy, leveraging equal parts motivation and understanding to instill mutual accountability between themselves and the patient.

Using our platform, you will help patients stay abreast of best practices and fitness hacks, including personalized three-minute learning exercises, suggestions for outdoor “play spaces” and techniques for calibrating patient preferences to boost optimal engagement levels.

### SPECIFIC RESPONSIBILITIES

- **Provide proactive, personalized and technologically savvy support** to help individuals embrace and sustain behaviors that improve health and prevent or alleviate chronic health conditions.
- **Fully understand fitness band platform variables** (steps, calories, diet choices, etc.) and how and when to use them for maximum benefit.
- **Encourage use of activity trackers** to capture daily steps walked; logging of food intake in a daily digital diary; uploading data on a weekly basis; and participation in weekly coaching sessions.
- **Work with participants** to set up appropriate calorie counts and eating styles to maintain steady blood sugar levels. Suggest alternative ways for non-able-bodied participants to remain active, such as doing upper-body work.
- **Measure “patient activation” rates** as a way of predicting which individuals will consume more healthcare services and/or succeed in managing their existing health conditions.

### SKILLS & QUALIFICATIONS

- Minimum of five-plus years’ experience of one-on-one, in-person fitness or nursing counseling (nutri-sci or psychology emphasis preferable).
- Thorough understanding of fitness trackers, wearables and smart fitness garments. Skills not limited to one platform.
- Proven experience facilitating outcomes with individuals over weeks, months, years.
- Experience working in networked, remote and culturally diverse environments. Many of the people you will work with will be geographically dispersed.
- MOOC credentialing on different modalities of fitness/wellness is required, e.g., hiking, stair-running, CrossFit or yoga.











## A FOCUS ON THE HUMAN TOUCH

While the 21 jobs we selected for this report cover many disciplines, markets and technologies, they also share three common themes:

- **Coaching:** Helping people get better at things (e.g., managing their finances, managing their weight).
- **Caring:** Improving people's health and wellness.
- **Connecting:** Man and machine, traditional and shadow IT, the physical and the virtual, commerce with ethics.

These 3C's speak to a universal truth – that no matter how technological our age becomes, ultimately we, as humans, want the human touch. We want technology to help us, as a tool, but we don't want technology for technology's sake. We use an iPhone (a technology) to play a game or send a message to a loved one. We use a spreadsheet (a technology) to create a business answer. We use a self-driving car (a technology) to better see the countryside or play with our kids. Technology is a means, not the end.

The jobs in our report reflect this fact and point not to a cyber dystopia – a grim, dark singularity – but to a recognizable world in which technology has improved things for humans, not robbed us of what we value most: our very humanity.

MID- TO HIGH-  
TECH

# AI-Assisted Healthcare Technician

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## POSITION SUMMARY

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We are a large government healthcare organization seeking a full-time AI-assisted healthcare technician to augment our new remote healthcare team. Our organization has reimaged affordable healthcare and is in need of enthusiastic, friendly and empathetic healthcare technicians to drive the first wave of this exciting deployment in the UK.

The role entails a combination of in-surgery work for our general patients and remote work for the vulnerable and frail. The successful applicant will have at least three years' experience in nursing or a related field, and be comfortable and competent dealing with software packages and digital testing equipment. Adequate training on the specific equipment used in the role will be provided.

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## OVERALL REQUIREMENTS

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Healthcare, supercharged by AI technology, is now available at scale and on-demand to all. With AI-enhanced healthcare practitioners, in-depth patient care and diagnosis is no longer the preserve of doctors with seven years of qualifications. The new phase of healthcare is here, and we want to take you on the next stage of your healthcare career as we work together on building a more efficient, caring and accurate hospital system for the nation.

In this role, you will be on the road and in surgery to examine, diagnose, administer and prescribe appropriate treatment to patients, aided by cutting-edge AI technology and remotely accessible doctors. The ideal candidate will be excellent at building close, trusting relationships with patients and efficient in making optimal use of the digital diagnosis tools and remote doctors at their disposal.

The role will entail working individually and in a team, as well as working alongside local police services when performing community outreach.



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## With AI-enhanced healthcare practitioners, in-depth patient care and diagnosis is no longer the preserve of doctors with seven years of qualifications.

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### SPECIFIC RESPONSIBILITIES

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- **Cycle from in-surgery days** to out-of-surgery days. Applicants must be willing to work two weekends a month.
- **Work individually and as a team** where applicable.
- **Examine patients using digital tools**, and then use the AI diagnosis software and communicate with remotely available doctors to diagnose, prescribe and treat patients, in real time.
- **Use our AI software** to automatically maintain up-to-date digital medical records of all patients. These records are superior to the previously manual logging process that often missed vital observations.
- **Build trusted relationships with patients** at every touchpoint in order to deliver the best possible service.
- **Travel to patients' residences**, in some cases working in collaboration with local police services and social workers for at-risk families.
- **Undergo frequent training on recent changes to software and hardware** used in the role, as well as on new physical treatment procedures.
- **Identify high-risk patients** and immediately escalate the consultation to the nearest hospital or applicable healthcare center.
- **Work alongside IT service and product providers** to troubleshoot and maintain equipment and software.

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### SKILLS & QUALIFICATIONS

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- University degree in nursing or equivalent plus registration with the Nursing and Midwifery Council (NMC).
- Three years of nursing or equivalent health-care experience. Experience in administration of medical treatments is essential.
- Strong interpersonal skills. The successful candidate will be a primary face of the health system and able to act in an empathetic, caring and professional manner at all times.
- Proven ability to work and cope in a fast-paced, dynamic and sometimes stressful work environment while always adhering to time constraints. The successful candidate will need to remain calm under time and situational pressure.
- Ability to work with digital tools and software. Experience with specific AI software platforms is not essential, although applicants should be comfortable working with systems of this kind.
- Proven track record of working with teams and collaborative environments. Technicians will work alongside fellow technicians in group environments, as well as with remote doctors, receptionists and technology providers. The successful candidate will be able to work effectively with individuals from differing backgrounds.
- Excellent attention to detail. Technicians must be able to read the nonphysical cues of patients to make decisions on their welfare.
- Self-motivated and confident.

MID- TO HIGH-  
TECH

# Cyber City Analyst

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## POSITION SUMMARY

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Our organization is seeking a team of cyber city analysts to ensure the safety, security and functionality of our municipality. Cyber city analysts ensure the steady flow of “healthy” data around our cities – including bio data, citizen data and asset data – by ensuring all technical and transmission equipment functions without being compromised.

The person in this role will carry out the necessary repairs when automated data flows are flagged by the city resilience team as broken, faulty or hacked. He or she will troubleshoot equipment issues, diagnose faults and replace components and circuitry, from the smallest sensors placed on the city’s biotracking beehives, to the powerful data tools located at the city’s data hub.

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## OVERALL REQUIREMENTS

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Nearly all of our municipal functions, including emergency services, power provisioning and waste collection, use sensor data to ensure fast and effective delivery of key city services. If these systems fail, the city suffers. As a member of our growing team of cyber city analysts, you will ensure the functionality and security of the digital systems and processes that make our modern city work. You will serve as the critical frontline to ensure interoperable data flow keeps our city safe, secure and operational.

In this role, you will diagnose and fix key city support processes. The ideal candidate will understand devices and data flows, data collection and processing, and data transmission and reception, and will be up to date with antivirus and anti-malware techniques. You must be prepared to travel at any time, undertaking repairs and patches to ensure pavements glow in the dark, micro-energy installations pay out or the gyro-sensors in autonomous cars interoperate with the national road system control.

You will also set up, maintain and fix electronic equipment, running checks and remedies where possible. Candidates should have technical dexterity with an understanding of micro silicon, modular architectures, data science and analytics, security, patch coding and back-end system APIs.

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As a member of our growing team of cyber city analysts, you will ensure the functionality and security of the digital systems and processes that make our modern city work. You will serve as the critical frontline to ensure interoperable data flow keeps our city safe, secure and operational.

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### SPECIFIC RESPONSIBILITIES

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- **Remotely investigate data flow faults.** Perform diagnostic tasks as directed by the city's resilience center.
- **Test data flow and integrity.** Monitor performance, troubleshoot problems and data outages, schedule upgrades and collaborate with data architects for interoperability.
- **Travel, troubleshoot and remedy.** Travel to and from locations to fix sensors and equipment. Undertake repairs from coding to printing parts as required.
- **Secure data integrity.** Establish and enforce policies, and define and monitor data flows from malfunctioning devices and equipment.
- **Maintain interoperability.** Start up data flow in greenfield developments by designing configurations, directing system installations, and defining, documenting and enforcing policy.
- **Design and implement data solutions.** Integrate new data from sensors/assets into the city and improve resilience of the current data flow.
- **Run equipment spot checks.** Manage the support and administration of firewall environments in line with city cybersecurity policies.

- **Update security knowledge.** Working with OEM personnel, ensure integration of the materials, methods and tools necessary to ensure safe delivery of data.
- **Update job knowledge.** Participate in educational opportunities, read city strategies and open data policies, maintain personal networks and participate in professional organizations.

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### SKILLS & QUALIFICATIONS

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- Digital engineering qualifications in Agile, DevOps and continuous integration.
- Circuitry skills (solder electronics, print silicon, etc.).
- Lean startup methodologies.
- Ability to read analytics and visualization platforms.
- Customize dashboards.
- Experience with 3-D printing.
- Level II Bosch (B2C) and Level IV Siemens (B2B) interoperability standards.
- Understanding of design thinking.

MID- TO HIGH-  
TECH

# Genomic Portfolio Director

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## POSITION SUMMARY

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With the explosion of biotechnology research and development and manufacturing in recent years, our company – the fastest-growing startup in the greater Boston region – has incredible new opportunities to increase the scale and scope of the new medicines we offer to the medical marketplace. With advances in DNA analysis and CRISPR/Cas gene editing technology, we are innovating new drugs at unprecedented rates; we aim to introduce five new FDA-approved products into the market every year for the next 10 years – at least!

To help us meet these objectives, we need a seasoned business executive with a strong commercial background who can help shape our future growth and ensure our new product offerings fit – *and shape* – our customers’ ongoing health-related requirements.

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## OVERALL REQUIREMENTS

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As the genomic portfolio director, you will create and execute our strategy for growing a portfolio of life sciences products for the North American and international markets. You will manage all aspects of launching and expanding the sale of our life science portfolio across the world. The successful candidate will work collaboratively with our strategic sourcing team and our global account managers to develop plans and programs that focus specifically on our top 200 customer accounts (health maintenance organizations, major insurers, large health systems and hospitals, etc.).

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## SPECIFIC RESPONSIBILITIES

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- **Create a strategy** to expand market share of products, including but not limited to further penetration of existing products, new supplier acquisition and product line expansion.
- **Build a cross-functional team of associates and suppliers** to execute the strategy for growing the portfolio of products in North America.
- **Support the strategic sourcing team** in negotiating supplier terms and conditions.
- **Determine profitability of each of the product groups** within the product category and develop and execute strategies for improving that profitability.
- **Make presentations to senior management** regarding supplier consolidation programs and the risks, costs and benefits of the proposed course(s) of action.
- **Assess the market of innovative technical developments** by both suppliers and competitors and determine customer requirements for these innovations.
- **Implement supplier consolidation strategies** to include changeover planning, discontinuance, supercession and communications, internally and externally.
- **Attend industry trade shows** and visit customers to learn about recent scientific product developments.
- **Audit major suppliers' manufacturing plants** to review manufacturing capacity, quality programs and opportunities for driving out costs from existing processes so they can deliver better value to our customers.

- **Work with strategic sourcing**, the purchasing team and product master data to ensure integrity/compliance with contracts and customer-specific price agreements.

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## SKILLS & QUALIFICATIONS

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- An undergraduate degree with a specific focus in genomics; a master's degree in business and/or molecular biology or equivalent experience is preferred.
- 10-plus years of applicable experience.
- Seven-plus years of research, sales/marketing or closely related experience.
- Five years of leadership experience.
- Three years or more of actual laboratory experience in a research or quality control setting is strongly preferred.
- Ability to communicate effectively with senior leadership, suppliers, and internal and external customers.
- Ability to negotiate optimal financial terms and conditions from our suppliers.
- Exceptional analytical skills and ability to interpret information on sales reports, quality reports and purchasing reports in order to assess trends and address specific areas for improvement.
- Ability to assess sales, profit, inventory investment, payment terms, return on sales, return on capital employed and EBITDA to improve our financial performance.
- Ability to assess the technology and innovation of products and the application for our laboratory customers so we can identify and negotiate with suppliers for products that we anticipate customers will wish to purchase from us.

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We need a seasoned business executive with a strong commercial background who can help shape our future growth and ensure our new product offerings fit – *and shape* – our customers' ongoing health-related requirements.

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LOW-TO MID-TECH

# Man-Machine Teaming Manager

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## POSITION SUMMARY

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Man-machine collaboration is the new workforce. We have an exciting career opportunity for individuals who can help combine the strengths of robots/AI software (accuracy, endurance, computation, speed, etc.) with the strengths of humans (cognition, judgment, empathy, versatility, etc.) in a joint environment for common business goals.

The key task for this role is developing an interaction system through which humans and machines mutually communicate their capabilities, goals and intentions, and devising a task planning system for human-machine collaboration. The end goal is to create augmented hybrid teams that generate better business outcomes through human-machine collaboration.

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## OVERALL REQUIREMENTS

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The future of work will be based on how well companies blend and extend the abilities of humans and machines by making them collaborative. In our work to turn machines and workers into collaborative “colleagues” to reach entirely new performance thresholds, we are looking for a seasoned professional to help shape the future of work and workplace within our company.

As a man-machine teaming manager, you will identify tasks, processes, systems and experiences that can be upgraded by newly available technologies and imagine new approaches, skills, interactions and constructs. You will define roles and responsibilities and set the rules for how machines and workers should coordinate to accomplish a task. This involves designing flexible experiences that meet workers’ expectations, while providing a simple and intuitive interaction with machines (translating consumer behavior to business users, as well as to machines, for instance). Ideal candidates will be passionate about advancing human-robot cooperation strategies in a dynamic business environment.

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## SPECIFIC RESPONSIBILITIES

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- **Develop a task-allocation decision tree** by identifying and describing capabilities that are unique to humans, as well as those that are unique to machines. Also, identify overlapping capabilities that provide the opportunity to variably assign tasks.
- **Translate consumer and employee needs** and business strategies into machine experiences.
- **Build and manage diverse collaborative teams** of engineers, marketers, designers, user experience professionals and program management individuals throughout the design-to-delivery process.
- **Help workers understand how robotic/virtual colleagues** will change workflows and what machines can actually do for effective communication. Develop social understanding and acceptance of such sophisticated machine capabilities.
- **Facilitate “enhance you” hackathon programs** across the organization to help workers focus on the more human elements of the job (being empathetic, building relationships and making sense of complex situations) and explore ways to work more effectively with machines.
- **Work with external stakeholders** (consultants, economists, sociologists, analysts and others) to develop the man-machine collaboration roadmap for the next five years.
- **Provide support and delivery of our talent management strategy.** Promote coaching and a learning culture in the business (this should involve social media and other learning applications).

- **Restructure compensation and performance metrics** for existing and new workers. Develop performance metrics for machines, i.e., how effective they are in strengthening the human-machine relationship.

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## SKILLS & QUALIFICATIONS

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- A graduate degree in experimental psychology or neuroscience and a relevant master's qualification in computer science, engineering or HR.
- At least five years of experience in one or more areas, including:
  - » Human neuroscience techniques (functional MRI, transcranial magnetic stimulation, EEG).
  - » Robotics (mechanical design, control, robotic vision).
  - » Human activity monitoring and understanding.
  - » Human-robot interaction.
  - » Machine learning.
  - » Social robots.
- A passion for programming and robotics, and an understanding and/or interest in entrepreneurship, corporate innovation, human resources, talent management and operations.
- Experience in consumer UI/UX design and implementation is preferred.
- Excellent leadership, communication and collaboration skills.

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The key task for this role is developing an interaction system through which humans and machines mutually communicate their capabilities, goals and intentions, and devising a task planning system for human-machine collaboration.

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MID- TO HIGH-  
TECH

# Financial Wellness Coach

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## POSITION SUMMARY

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With the explosion in digital banking, Bitcoin payments and micro-lending/robo-advising, the unspoken truth is that money leakage is abundant and omnipresent. In the face of increasingly digital finance transactions, many banking customers are too time-crunched to fully understand fee structures and optimal approaches to financial management. This lack of engagement with banking services is damaging to long-term financial fitness – and the long-term bottom line.

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## OVERALL REQUIREMENTS

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We're looking for tens of thousands of qualified individuals to join our team of digital financial wellness coaches. As a financial wellness coach, you will be supported by our revolutionary Fitness4Finance platform, which offers up-to-the-second financial instrumentation, logging not only every transaction, but also using our existing robo-advisor platforms as monitors. Successful candidates will use the platform as the basis for full-service financial coaching to optimize every aspect of customers' financial life.

The ideal candidate will exhibit high emotional intelligence and the ability to work with customers on developing the habits and knowledge required for a better daily regimen with money. The role entails a passion for helping people take the little steps – and avoiding the big pitfalls – to avoid crushing financial debt, using sophisticated technology as a catalyst. Through encouragement, education and coaching, you will ensure that customers learn to take the steps needed to embrace their financial destiny rather than doing it for them.

You will provide personalized weekly or bimonthly coaching sessions to drive strong impact for our clients – and our client retention business. Just as physical fitness coaches might use a fitness tracker for health wellness, mutual advisor-client accountability is key to helping customers understand their monetary activity, improve their financial acumen and adopt more penny-wise lifestyles.



Through encouragement, education and coaching, you will ensure that customers learn to take the steps needed to embrace their financial destiny rather than doing it for them.

### SPECIFIC RESPONSIBILITIES

- **Provide proactive, personalized and technologically savvy support** to help individuals embrace and sustain behaviors that improve financial habits and prevent or alleviate chronic money leakage.
- **Quickly master our Fitness4Finance platform variables** and how and when to use them for maximum benefit.
- **Use active listening, empathy and financial advisory skills** to get clients to “own” needed new behaviors.
- **Engage frequently with customers.** Many participants have had a negative experience with traditional advisors and have grown leery of robo-algorithms, which don’t change behaviors. Sustained weekly engagement is a ticket to success (for you and your clients).
- **Work diligently to help people** plan for the short-term, medium-term and long-term future.

### SKILLS & QUALIFICATIONS

- An associate of arts or associate of science degree or higher in business or finance.
- Credentialed graduates of Suze Orman’s online course will be given preference, and familiarity with the Fitness4Finance platform is a strong plus.
- A secure home working environment, high-end laptop and premium WiFi connections are a minimum requirement for this role.
- Strong relationship management skills, including the ability to understand motivations, navigate different personality types, listen and ask the right questions, resolve conflicts, educate others and counsel clients.
- Experience with analyzing financial metrics and complying with policies and procedures.
- Firm comprehension of legal and statutory frameworks that govern the banking industry.

LOW-TO MID-TECH

# Digital Tailor

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## POSITION SUMMARY

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We are the world's largest women's fashion e-commerce site, selling everything from \$10 sunglasses to \$10,000 couture dresses, and working with the world's greatest designers. From our beginnings in 2005, we have grown into a multi-billion retail juggernaut that has changed the rules of the fashion game. To reach the next stage of our journey, we are looking for talented, fashion-friendly tailors, seamstresses and designers to work with our customers in their homes to perfect the fit and finish of their e-commerce-ordered merchandise.

Currently, 40% of online clothing orders are returned due to imperfect sizing and fit. Our goal is to reduce that number to zero. Using our patented Saville Rowanator sensor cubicle, the person in this role will work with customers to gather precise sizings and measurements and ensure our clothes fit every woman every time. If you love fashion and working with other people who love fashion, come join our team and help us make everybody happy!

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## OVERALL REQUIREMENTS

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As a digital tailor, you will work with customers in their home or at their place of work to ensure clothing items ordered online fit perfectly when delivered. You will set up the Saville Rowanator cubicle, walk the customer through the short measurement process (which typically takes less than 10 minutes), ensure that all the required measurements are captured correctly, upload them into the central cloud-based ordering system and de-assemble the cubicle. You will also offer advice and recommendations to the customer about styling, cloth choice, drape, etc., and offer value-added input into fashion trends, new design names and upcoming events.

You will then revisit the customer with the finished item and provide final fit and touchup services, including but not limited to last-minute adjustments (in cases where a customer has added or lost weight since the initial measurement gathering) and accessorizing suggestions.

POSITIONS AVAILABLE

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## SPECIFIC RESPONSIBILITIES

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- **Transport, assemble, de-assemble and store** the Saville Rowanator cubicle.
- **Work with customers** to gather accurate measurements.
- **Ensure correct input of data** into the ordering system.
- **Consult with customer on choices;** offer "upsell" suggestions and advice.
- **Deliver finished items** and perform final tailoring.
- **Provide value-added "fashion-first" suggestions** leveraging wardrobe items the customer already owns.
- **Develop ongoing sales-oriented relationships** with customers and potential customers (not exclusively requiring measurement services).
- **Run local "sizing parties,"** where friends can gather to e-shop and e-measure.

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## SKILLS & QUALIFICATIONS

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- Experience and/or qualifications in fashion, tailoring, sewing, upholstery, general arts, interior design.
- Engaging and likable personality. You should be someone who is comfortable with other people and enjoys helping them make good decisions. Customers should look forward to you visiting their homes.
- Consulting/coaching experience and expertise.
- A good fashion sense, with the ability to present yourself in the best possible light. Remember, you are an important "brand" ambassador for our company and for all the designers we work with.
- Comfort with new technology, both with the cubicle itself and the online software ordering system.
- Strong sales/commercial sense. Digital tailors are on the front-line of our sales team. You should be constantly thinking of appropriate ways to generate more sales opportunities and repeat business.

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As a digital tailor, you will work with customers in their home or at their place of work to ensure clothing items ordered online fit perfectly when delivered.

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MID- TO HIGH-  
TECH

# Chief Trust Officer

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## POSITION SUMMARY

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Our global organization is looking for a full-time experienced financial trust officer. The person in this role will work alongside our internal finance and PR teams, managing and enhancing our public and private presence across the financial sphere as we juggle cryptocurrencies and the need for greater transparency. The individual will also advise on traditional and cryptocurrency trading practices that maintain our integrity and brand reputation. The successful candidate will have experience in cryptocurrency trading and speculation, blockchain, traditional currency trading and PR/marketing.

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## OVERALL REQUIREMENTS

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The rise of the instantly connected and morally aware investor and consumer has fueled the requirement for hyper-transparent organizations. This is, however, undermined by the rise of the widespread use of secret currency transactions enabled through cryptocurrencies like Bitcoin. The days of Swiss bank accounts are now gone, and in their place we find blockchain-enabled currencies. More than ever, organizations need to explicitly prove their financial integrity when dealing with currencies that have been developed to avoid scrutiny.

Therefore, an alloyed role is emerging in our organization that requires the combined financial and regulatory acumen needed to deal in traditional and cryptocurrencies, with the PR expertise to maintain a positive public image that upholds our organization's financial and public integrity.

The successful candidate will demonstrate the ability to build trust by enforcing and encouraging transparent and responsible financial trading of cryptocurrencies with all organizational stakeholders.

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An alloyed role is emerging in our organization that requires the combined financial and regulatory acumen needed to deal in traditional and cryptocurrencies, with the PR expertise to maintain a positive public image that upholds our organization's financial and public integrity.

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### SPECIFIC RESPONSIBILITIES

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- **Oversee the trade and management** of the traditional and cryptocurrency positions of the organization, speculating, where possible, on arbitrage positions between these two currency types to further the financial position of the organization.
- **Manage the publicly available reporting** of the organization's trading activities.
- **Manage cryptocurrency revenue inflow** from traditional commercial activities and report on these in the public domain alongside traditional revenue statements.
- **Develop associate processes** for receiving and dealing in cryptocurrencies across the organization.
- **Liaise with marketing departments** on developing collateral around the organization's openness to operating with cryptocurrencies in our day-to-day business in a responsible and transparent manner.
- **Work with social media teams** to develop a daily vlog of your unique activities within the organization, which will be available both internally and externally.
- **Present at trade conferences** on cryptocurrency trust in organizations.
- **Develop thought leadership material** on cryptocurrencies and the open organization.
- **Extensive travel required.**
- **Directly report** to the C-suite.

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### SKILLS & QUALIFICATIONS

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- Five to 10 years of relevant experience in three or more of the following fields: cryptocurrency trading, blockchain, traditional financial trading, PR and marketing.
- Master's degree with a major in either finance, investment management, economics or accounting.
- Chartered Financial Analyst (CFA) Level 1 or financial services equivalent with applicable practical experience in currency and speculation.
- A solid grasp of blockchain and cryptocurrency regulations.
- Proven ability to build and maintain relationships with C-level executives as an equal, and influence decision-making at this level.
- Strong ability to analyze and influence the nuances of corporate perception in the public and business realms.
- Excellent financial analysis capabilities and ability to interpret macroeconomic trends as they relate to and influence the crypto and traditional currency markets.
- Strong presentation and interpersonal skills.
- Strong managerial skills.







## **Workforce Size and Heterogeneity Ensures Resilience**

The modern economies in which most of us live are extremely large and contain extremely heterogeneous workforces. The gross domestic product of the U.S. is over \$18.5 trillion.<sup>2</sup> Across the G7 economies, it is \$33.93 trillion.<sup>3</sup>

Within these economies are thousands and thousands of different types of jobs and a huge number of niches subject to a diverse range of trends and countertrends.

According to the Bureau of Labor Statistics, teachers make up 2.7% of the U.S. workforce. Workers in the combined areas of entertainment, arts, design, sports and media only represent 2.2%. Healthcare workers are another 12.5%; food preparation and service staff 8.3%; sales people are 10.2%; cashiers another 2.3%. Even the largest job category (office and administrative support personnel) only represents 15.1% of the entire workforce.

The upshot of all this diversity is that even the most powerful trends and dynamics that change how we work – such as the rise of AI – could never change every type of work, in the same way, at the same time. The heterogeneity of the workforce ensures its resiliency against a whole-sale collapse of employment.

Checkout cashiers will probably disappear from supermarkets and stores in the next few years. But does that mean the end of times? No, of course not. New jobs – among them the 21 jobs of the future profiled in this report – will emerge to fill that gap.



MID- TO HIGH-  
TECH

# Quantum Machine Learning Analyst

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## POSITION SUMMARY

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We are seeking bright and ambitious quantum machine learning (QML) analysts to join our software research team. Individuals in this role research and develop next-generation solutions by integrating the disciplines of quantum information processing with machine learning. QML analysts apply quantum technologies to improve the speed and performance of learning algorithms and address real-world business problems in the fastest time possible. They also develop and apply machine learning to increase the power, durability and effectiveness of quantum computer systems.

The ideal candidate will be well-versed with quantum information processing devices (quantum annealers and integrated photonic circuits), quantum data and machine learning techniques to develop well-capitalized, revenue-generating industry-specific solutions for the future. In particular, successful candidates will use/build quantum-computer-based machine learning systems to understand and interpret large datasets of quantum information with the end goal of building intelligent systems that learn from data.

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## OVERALL REQUIREMENTS

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Quantum computing is the future of computing, and machine learning is at the core of the ongoing AI revolution. When extremely fast computing is combined with self-learning algorithms, unimaginable levels of performance can be achieved, and business problems solved, that are computationally intractable with today's supercomputers. Our mission is to take a quantum-assisted, AI-driven leap into the future. We are interested in building machine learning algorithms for currently envisioned quantum computing devices as well as quantum-inspired algorithms that can be implemented on today's computers.

We are seeking bright individuals who are willing to push the limits in unraveling the possibilities in quantum machine learning. As a QML analyst, you will be at the intersection of quantum information processing and machine learning to create technology functionalities that never existed before. You will make quantum computing accessible through quantum algorithms and improve classical machine learning methods to address specific business problems. If you have exceptional analytical skills, a passion for solving challenging problems and a love for quantum bits/qubits, come be a part of the future.



As a QML analyst, you will be at the intersection of quantum information processing and machine learning to create technology functionalities that never existed before.

### SPECIFIC RESPONSIBILITIES

- **Develop a QML roadmap** for the next five to 10 years with planned milestones and required investments.
- **Collaborate with business and IT teams** to identify QML hotspots.
- **Research, design, prototype and test** small-scale or special-purpose QML algorithms for identified business problems.
- **Work with industry partners and startups** to develop quantum algorithms for machine learning, with a focus on methods that can be run on near-term devices.
- **Apply machine learning techniques** to process large amounts of experimental data in the context of quantum computing and also develop new applications.
- **Apply principles from quantum mechanics** to design algorithms for traditional computers.
- **Collaborate with research institutions and startups** to develop use cases about the impact of QML on important issues such as cybersecurity. Successful use cases should be converted into minimum viable products to run feasibility tests.
- **Work with the legal team** to prepare patent disclosures related to any new solution development.
- **Collaborate with our internal research and engineering teams**, as well as external partners and the academic community, to publish joint papers to bridge the gap between abstract developments in quantum computing and applied research on machine learning.

### SKILLS & QUALIFICATIONS

- At least a post-graduate degree in statistics, math, physics, electrical engineering or computer science is required.
- You should be creative, ambitious and a keen learner, with a sound understanding of quantum information processing and/or machine learning (classification, clustering, graphical models, stream analytics) and deep learning applications/design, especially for neural networks.
- At least two years of research/work experience in machine learning, quantum computing or data science is required. Candidates with direct experience in quantum algorithms for machine learning, and machine learning experts with a demonstrable interest in quantum computing and algorithms, will be preferred.
- Experience in writing mathematical and scientific software is highly valued.
- Skill in clearly articulating complex computational approaches and methodologies to business leaders and to the board.



LOW-TO MID-TECH

# Virtual Store Sherpa

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## POSITION SUMMARY

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Since the advent of online-only retail, the big-box model has come under immense pressure to redouble notions of old-fashioned, Main Street/High Street-style customer service. One of the big challenges is the persistent anxiety customers face when trying to navigate 100,000 square feet of retail plenitude, while seeking – like a needle in a haystack – what they’re looking for.

We’re a global hardware and home furnishings giant, and we need you – and your skills, passion and knowledge of carpentry, gardening, landscaping or home design. Through our virtual store sherpas, paired with the power of our TrustyCrew platform, we want to deliver heightened, instant, virtual customer service and advice for our customers, and extra money in your pocket, when you want it.

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## OVERALL REQUIREMENTS

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As a virtual store sherpa, you will understand the difference between “pushy selling” and being helpful. Think of yourself as a “sommelier of hardware.” As such, your focus will be customer satisfaction through knowledge of our product line, applied to advice you’ll give virtually to customers to support them with completing their projects. You’ll plug in via videolink, from the comfort of your own home, to customers all over the country. Let’s say a customer wants to buy a hammer. Our venerable rolling robots or customers’ own wearable AR spectacles match-and-patch a real-time video uplink to you – and your skill sets – remotely and instantly on the TrustyCrew platform. Based on your extensive profile, background and skills – matched to what the customer is looking for in the store – the TrustyCrew platform will identify the best match between customers and sherpas.

Ultimately, this role is about making the TrustyCrew platform come alive at the right time, right place, at massive scale using technology – as well as your skillsets as a knowledgeable conversationalist.

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## SPECIFIC RESPONSIBILITIES

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- **Guide, suggest, converse and provide friendly, efficient and knowledgeable service** for customers, using the TrustyCrew platform to calibrate and match customers with you and your skills.
- **Inquire about projects customers are working on**, and help them get to the right product, at the right time, quickly.
- **Utilize telepresence and augmented reality** to engage customers and deliver high-impact customer service at all times.
- **Lead natural, non-scripted conversations** that leave the customer feeling satisfied and fulfilled.
- **Use your department and product knowledge** to provide information on product features, and know which related items are needed to sell an entire project.
- **Suggest adjacent products or furnishings** that could augment the success of customer projects.

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## SKILLS & QUALIFICATIONS

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- High school degree or GED equivalent.
- Apprenticeship with, or background as, a registered licensed contractor preferred.
- Demonstrated track record as a journeyman/ journeywoman, contractor, painter, carpenter, landscape designer or tool foreman a bonus.
- Experience in retail sales and working with customers.
- Knowledge of functionality of the TrustyCrew app – perhaps as a customer of ours over the recent past – will be highly considered.
- Excellent communication skills, exceptional organizational ability, high attention to detail and ability to multitask.
- Specific areas of emphasis and store departments may include tools and hardware, carpet and rugs, construction equipment, electrical equipment, interior decorating, equipment rental, landscaping, plumbing, paint and lumber.
- A secure home working environment plus your topflight laptop and premium WiFi connections are minimum requirements.

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Through our virtual store sherpas, paired with the power of our TrustyCrew platform, we want to deliver heightened, instant, virtual customer service and advice for our customers, and extra money in your pocket, when you want it.

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LOW-TO MID-TECH

# Personal Data Broker

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## POSITION SUMMARY

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With corporations now mandated to consider consumer data as sovereign, we need individuals who can execute data trades on behalf of clients and track new ways of maximizing a client's return on data.

The successful personal data broker will monitor and trade in all forms of personal data that a client creates from his/her micro data feeds, streaming preferences to platform data. Other responsibilities include seeking out ways to maximize income from data on the national and international data exchanges; pricing and submitting new offers to market; tracking and consolidating new data issues (from API requests to micro data feeds); and helping clients understand and maximize their data income streams through advice and support. The successful candidate will leverage a professional network, exhibit quick thinking and creativity, and demonstrate exceptional analytical skills and an ability to work under pressure.

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## OVERALL REQUIREMENTS

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The personal data broker is one of a number of new data roles created within the newly mandated banking sector to administer the personal data assets of citizens and consumers. This followed the market's "big bang," which led to the establishment of 10 interoperable data exchanges across Asia, Africa, Europe and the Americas. As a personal data broker, you will ensure consumers (clients) receive revenue from their data.

In this role, you will establish prices and execute trades while mastering the new global code of ethics surrounding interstate, international and regional data trades. The ideal candidate will hold professional qualifications needed to trade on the world's newly established data exchanges. Successful candidates will have a high degree of curiosity for discovering alternative forms of data commercialization through third-party APIs to other insight services, and a drive to explore new ways to determine data value and submit and price offers into the data exchanges for trade. You will leverage your acute market awareness to identify potential channels to market and maintain a network of partners across the trading system to ensure optimum data commercialization and top-quartile performance for the company. Ideal candidates will exhibit quick thinking, market savvy, creativity and the ability to take risky positions in an instant. You will be expected to research and master the emerging market for micro data bonds, as well as monitor your clients' investments and provide advice when necessary.

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## SPECIFIC RESPONSIBILITIES

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- **Make data trades.** Make prices for data and executing trades in micro data bonds, data commodities and interoperable exchanges between the newly established data exchanges.
- **Track and manage commercial opportunities.** Track, monitor, assess and oversee the "return on data" metrics to ensure top-quartile performance.
- **Price new market offers.** Research and master newly emerging opportunities, with a focus on the emerging market for micro data bonds.
- **Seek out emerging sources of value.** Participate in innovation forums, with a focus on new data issues and market promotions. Provide detailed advice on market movements and opportunities.
- **Drive new data monetization opportunities.** Track and consolidate alternative forms of data commercialization, forecasting three- and five-year potential return on data yields.
- **Maintain trading network.** Update and inform other third-party banks with regular information swaps and data market positions.
- **Provide instantaneous advice.** Run on-demand dashboard queries and information interpretation for clients. Build scripting and querying tools in support.

- **Help clients understand data income.** Help clients maximize their return on data and reconfigure unique investment profiles with lifestyle choices.
- **Run data traces on proprietary algorithm.** Regularly test data feeds to ensure the accuracy and integrity of the data trades.
- **Market education.** Educate clients and senior business leaders about alternative forms of data commercialization opportunities.

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## SKILLS & QUALIFICATIONS

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- Exceptional analytical skills.
- Deep understanding of the global regulatory environment.
- Aptitude for working with large amounts of quantitative data.
- Excellent communication and interpersonal skills.
- Team-working ability.
- Physical and mental stamina.
- Ability to work well on a team and a high degree of self responsibility.
- Keen interest in the workings of the newly established data exchanges.
- Ability to learn quickly.
- Very strong personal discipline and motivation.
- Alertness and decisiveness under pressure.

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The successful personal data broker will monitor and trade in all forms of personal data that a client creates from his/her micro data feeds, streaming preferences to platform data.

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LOW-TO MID-TECH

# Personal Memory Curator

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## POSITION SUMMARY

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Our organization is seeking a personal memory curator to provide a “live well” solution for our aging customers by creating and delivering seamless virtual environments for them to inhabit. Staggering advances in healthcare have led to extended longevity expectations. Yet our seniors need innovative solutions to cope with their longer life expectancy because the advances in brain-related healthcare lag behind. The role requires consulting across a range of customer stakeholders, media and historical sources to remake and architect past experiences to reduce the stress or anxiety that simple memory loss creates.

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## OVERALL REQUIREMENTS

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Curated experiences require a combination of physical space and multi-projected environments with realistic images, sounds and other sensations that simulate a client’s presence in a previous familiar time or environment (e.g., “what was the address where you raised your children?”).

As a personal memory curator, you will consult with patients and stakeholders to generate specifications for virtual reality experiences that bring a particular time, place or event to life. The ideal candidate will have a high degree of emotional intelligence to uncover lost memories and experiences, together with a solid grounding in virtual reality simulation techniques. Tailoring and managing the “advance memory statement” is a central requirement of the role. This “living contract” details the experiences that the customer would like to have and determines how deep the experience travels. The advance statement is completed before the onset of memory problems, with regular gene screening of the population auto-scheduling the advance statement process.

You will generate and manage the advance memory statement, and work with a team of researchers to blend content from personal data feeds and image banks to beta-test experiences agreeable to the client. You will then create a specification for the virtual reality team to architect and create the sets, mood, historical time, etc. Successful candidates will also work with customer stakeholders to take into consideration “active” or “passive” character interactions within the experience.

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## Personal memory creators provide a “live well” solution for their customers by creating and delivering seamless virtual environments for seniors to inhabit.

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### SPECIFIC RESPONSIBILITIES

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- **Identify the customer cohort.** Work with the memory screening agency on a list of customers flagged as needing a dedicated memory plan.
- **Engage the customer network to determine a care statement.** Collaborate with customer stakeholders and specialists to prepare the dedicated experience statement.
- **Prepare memory experience plans for customers.** Consult with customers and stakeholders to construct an immersive care plan based on memories and experiences.
- **Construct the memory experience plan.** Develop a custom client experience plan based on the experience statement.
- **Create project specifications.** Ensure project specifications align with patient/client expectations.
- **Engage with production to create the experience.** Engage with an in-house team or third-party experience agency to specialize in particular periods of time, place and news.
- **Run experience sprints from beta-testing to signoff.** Road-test the experience with clients and stakeholders through a series of time-boxed vignettes.
- **Oversee experience production.** Supervise the creation of the immersive experience with virtual reality architects, with a specific focus on the sets, mood, historical time, etc.
- **Deliver the experience.** Adjust the virtual experience based on client feedback. Mod-

ules can be added if particular augmentations are needed (i.e., taking medications, dealing with bereavement, etc.).

- **Update and maintain the experience bank.** Submit completed work (via the guild of curators) to the national bank of experiences, where they are catalogued for use.
- **Provide insight when required.** Experiences are made available, with insight and advice offered where required.

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### SKILLS & QUALIFICATIONS

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- Exceptionally strong EQ – supportive, encouraging and patient.
- Excellent interpersonal and communication skills.
- Genuine concern for the welfare of others.
- Narrative and storytelling capability.
- Strong creative skills.
- Solid psychology qualification to uncover experience cues.
- Teamwork ability.
- Tact and diplomacy.
- Thirst for innovation.

MID- TO HIGH-  
TECH

# Augmented Reality Journey Builder

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## POSITION SUMMARY

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As a pioneer in the “experience economy,” we’re seeking tens of thousands of talented AR journey builders who can help design, write, create, calibrate, gamify, build and – most importantly – personalize the next generation of mind-blowing stories and in-the-moment vignettes for our clients’ trips in augmented reality. Much as composers, bricklayers and playwrights were in demand a century ago, AR journey builders are their 21<sup>st</sup> century successors, transposed to the medium of augmented reality – equal parts “experience composers,” “data overlayers” and “CX/UXwrights.”

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## OVERALL REQUIREMENTS

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As an AR journey builder, you will collaborate with talented engineering leads and technical artists to create the essential elements for customers to move through an augmented reality experience of place, space and time. This includes the setting, mood, historical time, information, tone, characters and suggested things or experiences to buy, as well as the application of clients’ favorite games, sports teams, music and cinematic style.

Continually forming and reforming, AR journey building teams will craft “virtual vignettes” on-the-fly for clients to interact with, leveraging prior-art from any film genre or vernacular imaginable, whether it’s *Game of Thrones*, *Star Wars*, *Harry Potter*, Van Gogh’s “Starry Night” or Jane Austen period immersions. The collective genius of these vignettes will upload into our Pandora-for-AR platform, ready for use, redeployment and recombination into countless situations and parameters. And if you’re tired of “covering” the prior work of others, write something of your own. Like Springsteen or Steinbeck before you, all royalties are yours in perpetuity, since you’re the composer.



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## SPECIFIC RESPONSIBILITIES

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- **Collaborate with rotating teams** of AR journey builder squads to produce highly desirable, best-in-class augmented experiences.
- **Develop a UX and CX design** that dynamically optimizes the context and type of graphic realism, innovation and harmony with original franchise vernacular, genre and intellectual property (e.g., Jabba the Hutt needs to “look right”).
- **Leverage motion capture riggers and spatial 3-D mapping** to overlay contextual experiences (education, advertising, location of goods in stores, historical associations, “Easter egg” placements, etc.).
- **Closely support chief designers** to prototype in-the-moment scenarios premised upon prior art, film references and intellectual property.
- **Ensure adherence to best practices** for intro/outro transitions into augmented AR journeys from the non-augmented, analog “real world” and back out again. The emphasis is on seamless – experiences that are perceived as jarring or stilted are to be avoided at all costs.

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## SKILLS & QUALIFICATIONS

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- Bachelor’s degree or equivalent experience; accredited film schools a plus.
- Minimum of five years’ experience in demonstrated MMORPG competitive gaming (either at the high school, university or accredited club level).
- Proficiency with creative language/lingo of AR hackathons, game jams, skins, surfaces, planes, “escape rooms,” SDKs, simultaneous localization and mapping (SLAM) and head-mounted displays.
- Preference given to those with a minimum of two years’ experience in development, design, modeling and texturing 3-D assets using Autodesk MotionBuilder, Maya, 3ds Max or equivalent 3-D/2-D programs.
- Exceptional familiarity with (and mastery of) metaverses of content such as Google images, Asset Stores from Unity 3D, wikis, blockchain, and process templates on GitHub or IFTTT.
- Exceptional knowledge of and familiarity with leading head-mounted display equipment, especially Microsoft HoloLens, Facebook Oculus, Meta, DAQRI, ODG, Magic Leap, Google, Apple, etc.
- Applicants with an apprenticeship from Weta Digital, Electronic Arts’ Capture Lab, Digital Domain and Industrial Light & Magic will be highly considered.

*A starting bonus is available for applicants with demonstrated experience as “improv” actors/comedians using motion capture.*

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As an AR journey builder, you will collaborate with talented engineering leads and technical artists to create the essential elements for customers to move through an augmented reality experience of place, space and time.

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LOW-TO MID-TECH

# Highway Controller

## POSITION SUMMARY

We are a large municipality seeking a full-time space controller to assist in regulating road and airspace in the inner city. The successful candidate will join the space control inner city management team to monitor, regulate, plan and manipulate air and road space, monitoring and programming the automated AI platforms used for space management of autonomous cars and drones. The ideal candidate should be comfortable confronting occasional high-stress environments and be competent dealing with sophisticated AI tools.

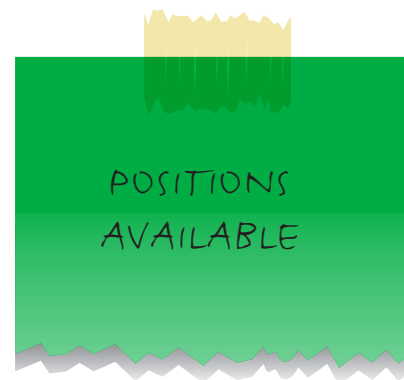
## OVERALL REQUIREMENTS

Our cities have changed. The rise of autonomous vehicles and the massive surge in drone delivery has prompted cities to rethink how both road and air space is managed. The driverless car has rewritten the rules of the road, meaning faster speed limits and greater traffic flow efficiency. This efficiency gain has been nullified to an extent by motorists who allow their vehicles to roam the road network rather than parking.

Air traffic has become overly congested. Drones now swarm the sky, but these devices do not have preset flight paths and, therefore, present a danger to traditional aircraft.

Managing these inner city spaces is now crucial. In the role of highway controller, you will work alongside colleagues in our city's space control center, alternately monitoring automated road and air space management systems to ensure no errors occur that could endanger life or property. You will also be responsible for detecting autonomous cars without drivers that exceed the prescribed time limit for non-driver interaction and then issue fines to these cars.

The ideal candidate will exhibit an exceptional ability to rapidly problem-solve under occasional high-stress environments. Experience in dealing with AI space management platforms is not a requirement as training will be provided, although candidates should display confidence in dealing with complex digital interfaces.



In the role of highway controller, you will work alongside colleagues in our city’s space control center, alternately monitoring automated road and air space management systems to ensure no errors occur that could endanger life or property.

### SPECIFIC RESPONSIBILITIES

- **Undertake a three-month training course** at National Space Traffic Services (NSTS), followed by a further three-month apprenticeship with experienced controllers in the space control center.
- **Oversee the AI space management platforms** used in the municipal space control center, ensuring there are no errors or potential collisions.
- **Rapidly contact either the drone or automated car** in the event of a system error to prevent collision.
- **Update the AI platform or take over certain controls** due to unforeseen variables such as extreme weather conditions or infrastructure failures.
- **Plan both air and road space allocation** and reprogram the AI platform accordingly.
- **Utilize the AI platform to monitor autonomous vehicles** without passengers and issue a fine if applicable.
- **Alert and liaise with emergency personnel** in the event of an incident.
- **Develop relationships with colleagues** to build an environment of mutual trust in the space control center.
- **Conduct peer review safety audits** of colleagues on a monthly basis.
- **Undergo annual evaluation** of skills and reaction times in order to comply with federal legislation.

### SKILLS & QUALIFICATIONS

- University qualification is not required, although a BA/BS in either computer science, math or physics is preferred. Minimum qualification standards include at least five general education credits (or the equivalent) at grade C or above, including English, computer science and math/physics.
- Experience is not required, although applicants who can demonstrate proof of prior work experience will be preferred.
- Aptitude outweighs qualifications and experience for this role; applicants need to be able to demonstrate the following:
- Communication skills: both verbally and via text, clearly and succinctly, often under high-stress environments.
- Quick decision-making skills.
- Mental arithmetic: Controllers need to be able to quickly and accurately calculate speed, time and distance, often in emergency situations.
- Organizational skills: Controllers will need to coordinate the actions of multiple drones and vehicles in the event of a system failure. Therefore, the ability to prioritize tasks is essential.
- Problem-solving: Controllers must be able to understand complex situations, such as the impact of changing weather patterns on a drone’s flight path or a car’s braking distance. Controllers must be able to review important information and provide pilots, drivers and autonomous vehicles with appropriate solutions.



# Genetic Diversity Officer

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## POSITION SUMMARY

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Our organization is seeking a full-time experienced genetic diversity officer. The individual will work closely with our country and business unit heads, as well as our in-house and third-party genetic pathologists, to ensure genetic inclusion within the organization. The successful candidate will either be experienced in genetic equality or have experience handling and implementing other equality programs within organizations and be willing to undergo training on genetic enhancement methodology and implications.

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## OVERALL REQUIREMENTS

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The next revolution in equality management is here. Beyond ethnic, sexual orientation and gender equality, we now face genetic equality and the need to integrate a workforce that includes workers who have been genetically enhanced (whether during gestation or later in life) with those who have not. As an Equal Opportunity Employer, it is extremely important for us to maintain an inclusive workforce and fairly handle progression, remuneration and recognition across the workforce and genetic spectrum.

As our genetic diversity officer, your primary role will be to facilitate the profitability and productivity of the organization while fostering an environment of genetic inclusion. You will operate within legislative guidelines and mandates regarding the genetically enhanced workforce, constructing a companywide genetic equality policy and encouraging management to adhere to and implement said policy within their business units. You will also work with our in-house and outsourced genetic pathologists to ensure that all members of staff are categorized correctly and fairly.



As our genetic diversity officer, your primary role will be to facilitate the profitability and productivity of the organization while fostering an environment of genetic inclusion.

## SPECIFIC RESPONSIBILITIES

- **Work alongside our legal and in-house genetic pathology teams** to develop, in accordance with government legislation, the organization's policies and procedures on genetic equality and inclusion practice.
- **Liaise with business and country heads** to encourage the adoption of these procedures throughout the organization.
- **Work with hiring teams to develop our Voluntary Genetic Declaration** and mandatory genetic testing procedures for new associates.
- **Act as the company's primary thought leader and PR representative** in this space, facilitating the writing and research of white papers and the monthly publication of blogs and/or articles on the subject, as well as speaking to the press where applicable.
- **Participate in events** regarding the topic of genetic diversity and inclusion.
- **Build an external community of research, academic and publication partners** to further the organization's impact and stance on genetic inclusion.
- **Work with the marketing team** to develop outbound and inbound collateral on the organization's genetic equality practice and procedures.
- **Compile and manage a biannual pulse check** on the organization-wide perception of inclusion procedures and practice.
- **Report to the country head** and provide biannual progress reports to the board.

## SKILLS & QUALIFICATIONS

- Advanced degree in biology or genomics.
- Five to 10 years of relevant experience in genetic equality or similar role, or in HR.
- Specific genetic methodology and theory experience is not required but will be advantageous. In the absence of this experience, the successful candidate will be required to undergo training on the topic.
- An MBA or master's degree with a major in the humanities or business management.
- As this is a new position and function within the company, the successful candidate will show a track record of thriving in a fast-paced and sometimes ambiguous environment.
- Proven ability to build trusted relationships across the organization.
- Proven ability to construct and manage projects through completion within allotted timeframes.
- Strong interpersonal, communication (verbal and written) and consulting skills and the ability to interact with peers, subordinates and clients at all levels.
- Highly self-motivated, individually driven, self-disciplined, organized and focused.
- Strong managerial skills.

# And In the End ...

... the jobs you take are equal to the jobs you make (with due apologies to John and Paul).<sup>4</sup> The point being that the jobs of the future are jobs you make – jobs made with the new tools of the trade (AI, VR, big data, et al.) to solve old problems and explore new opportunities. Jobs that emerge out of niches and by combining unlikely bedfellows in the way that Steve Jobs' passion for calligraphy and supply chain management was instrumental in creating the two million U.S. jobs Apple claims to have created within its broader ecosystem.<sup>5</sup> Jobs that address unaddressed latencies – did anyone really know they needed a user-generated directions app until Waze invented it? And jobs creating services that have ultimately become indispensable partners (“I’ll give you my Shazam when you pry it out of my cold, dead hands ...”).

To imagine that some jobs won't go away due to automation, AI and intelligent machines is to engage in magical thinking. To conclude that many new jobs won't appear due to automation, AI and intelligent machines is to fall prey to a simple lack of imagination. As we wrote in our book *What to Do When Machines Do Everything*<sup>6</sup>:

*The consensus among the majority of the [job displacement] studies ... posit[s] a range from around 5% to 15% of jobs being automated away over the coming 10 to 15 years. Based on our analysis, we believe that the mid-point of this range, about 12%, is the most likely scenario. This level of job dislocation from AI, of course, is still significant. 12% is the equivalent of around 19 million jobs in the United States. If one of those jobs is yours, life will undoubtedly be very tough. However, what's often overlooked in examining the big picture of employment levels is the growth of new jobs. We believe that there will be almost 21 million new jobs, about 13% of the current U.S. labor force, directly created as a result of the growth of the new machine. In case these numbers – 19 million jobs disappearing and 21 million jobs being created – sound implausible, keep in mind, as a point of reference, that since 2010, during the years of the post-Great Recession recovery, 15 million private sector jobs have been created in the United States.*

*Our assumption is that in the industrialized world, for nations that embrace the Fourth Industrial Revolution, unemployment rates by 2025 will be roughly what they are today. This relatively small expected change – plus or minus – in the net unemployment rate will, however, mask huge changes in what work we do and how we do it. Within the overall labor force, there will be massive job transitions (often creating skills mismatches).*

The 21 jobs that we examine in this report are some – although, of course, not all – of the 21 million new jobs that we are confident will be created over the next 10 to 15 years. Many of the jobs of the future are the jobs of today – teachers, doctors and policemen aren't going anywhere soon – but many of them will transform into the often weird, unsettling, unique occupations we outline here. Jobs that will seem odd to our parents and, in time, may seem ridiculous to our kids. In the way that work has always changed but has also always been with us. And always will.

*Welcome to the working week – you've got to do it, to get through it, so you'd better get to it.*<sup>7</sup>

# Appendix

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## JOBS BY TECH-CENTRICITY

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### Low- to Mid-Tech

*(listed in order of tech-centricity)*

Walker/Talker	18
Digital Tailor	34
Fitness Commitment Counselor	20
Personal Memory Curator	46
Virtual Store Sherpa	42
Ethical Sourcing Manager	12
Highway Controller	50
AI Business Development Manager	14
Man-Machine Teaming Manager	30
Bring Your Own IT Facilitator	10
Personal Data Broker	44

### Mid- to High-Tech

*(listed in order of tech-centricity)*

Genomic Portfolio Director	28
Financial Wellness Coach	32
Chief Trust Officer	36
Data Detective	8
Cyber City Analyst	26
AI-Assisted Healthcare Technician	24
Genetic Diversity Officer	52
Augmented Reality Journey Builder	48
Master of Edge Computing	16
Quantum Machine Learning Analyst	40

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## JOBS BY TIMEFRAME

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### Within the Next Five Years

Data Detective	8
Bring Your Own IT Facilitator	10
Ethical Sourcing Manager	12
AI Business Development Manager	14
Master of Edge Computing	16
Walker/Talker	18
Fitness Commitment Counselor	20
AI-Assisted Healthcare Technician	24
Cyber City Analyst	26
Genomic Portfolio Director	28
Man-Machine Teaming Manager	30
Financial Wellness Coach	32
Digital Tailor	34
Chief Trust Officer	36
Quantum Machine Learning Analyst	40

### Within the Next 10 Years

Virtual Store Sherpa	42
Personal Data Broker	44
Personal Memory Curator	46
Augmented Reality Journey Builder	48
Highway Controller	50
Genetic Diversity Officer	52

## Endnotes

<sup>1</sup> Jerry Kaplan, *Humans Need Not Apply*, Yale University Press, 2015, <https://www.amazon.com/Humans-Need-Not-Apply-In-telligence/dp/0300213557>.

<sup>2</sup> "U.S. GDP," Trading Economics, 2016, <https://tradingeconomics.com/united-states/gdp>.

<sup>3</sup> "Group of 7 Countries: Statistical Profile," NationMaster, <http://www.nationmaster.com/country-info/groups/Group-of-7-countries-%28G7%29>.

<sup>4</sup> Lyrics from "The End," The Beatles, produced by George Martin, from the album *Abbey Road*: "And in the end, the love you take is equal to the love you make."

<sup>5</sup> "Apple Releases New Job Creation Numbers, Says It's Responsible for 2 Million U.S. Jobs," TechCrunch, May 3, 2017, <https://techcrunch.com/2017/05/03/apple-releases-new-job-creation-numbers-says-its-already-responsible-for-2-million-u-s-jobs/>.

<sup>6</sup> Malcolm Frank, Paul Roehrig and Ben Pring, *What to Do When Machines Do Everything*, Wiley, 2017, <https://www.amazon.com/What-When-Machines-Everything-Algorithms/dp/111927866X>.

<sup>7</sup> Lyrics from "Welcome to the Working Week," Elvis Costello, produced by Nick Lowe, from the album *My Aim Is True*.

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Ben Pring is Vice-President and Managing Director of Cognizant's Center for the Future of Work. He came to Cognizant in September 2011 after spending the previous 15 years with Gartner as a senior industry analyst, researching and advising on areas such as cloud computing and global sourcing.

Prior to Gartner, Ben worked for a number of consulting companies, including Coopers & Lybrand.

At Gartner, Ben was one of the lead analysts on all things cloud; he wrote the industry's first research notes on cloud computing (in 1997) and Salesforce.com (in 2001). He became well known in the IT industry for providing predictions of the nature and velocity of the change that would impact everyone as the paradigm shifted again and cloud computing became the foundation for the next wave of competition in global IT. Ben was also heavily involved in tracking and analyzing the emergence of IT talent from outside western markets and the impact that globalization would have on business and IT strategies for organizations of all types.

Ben's expertise in helping clients see around corners, think the unthinkable and calculate the compound annual growth rate of unintended consequences has brought him to Cognizant, where his charter is to research and analyze how clients can leverage the incredibly powerful new opportunities that are being created as new technologies make computing power more pervasive, more affordable and more important than ever before. Now based near Boston, MA, Ben graduated with a degree in philosophy from Manchester University in the UK, where he grew up.

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## About the Center for the Future of Work

Cognizant's Center for the Future of Work™ is chartered to examine how work is changing, and will change, in response to the emergence of new technologies, new business practices and new workers. The Center provides original research and analysis of work trends and dynamics, and collaborates with a wide range of business, technology and academic thinkers about what the future of work will look like as technology changes so many aspects of our working lives. For more information, visit [Cognizant.com/futureofwork](https://www.cognizant.com/futureofwork), or contact Ben Pring, Cognizant VP and Managing Director of the Center for the Future of Work, at [Benjamin.Pring@cognizant.com](mailto:Benjamin.Pring@cognizant.com).

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## About Cognizant

Cognizant (Nasdaq-100: CTSH) is one of the world's leading professional services companies, transforming clients' business, operating and technology models for the digital era. Our unique industry-based, consultative approach helps clients envision, build and run more innovative and efficient businesses. Headquartered in the U.S., Cognizant is ranked 193 on the Fortune 500 and is consistently listed among the most admired companies in the world. Learn how Cognizant helps clients lead with digital at [www.cognizant.com](https://www.cognizant.com) or follow us @Cognizant.

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