

AI for Impact:

How To Thoughtfully Leverage
Technology To Deliver on Mission



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Artificial intelligence (AI) is the most important technological development of our time. As it continues to rapidly evolve, it will have profound consequences for the job market. As soon as 2025, AI technologies could eliminate 85 million jobs globally while generating 97 million new jobs in fields from big data and machine learning to information security and digital marketing, according to the World Economic Forum.

AI's transformative power — when wisely applied — can help organizations improve their capabilities, increase their efficiencies, and scale their impact. AI can be a gamechanger for organizations like Upwardly Global, which works to eliminate employment barriers for immigrant, refugee, and asylee professionals and advance the inclusion of their skills into the U.S. economy. We believe that AI can help these individuals surmount the barriers that keep them locked out of traditional career pathways, and by helping them more efficiently navigate to skill-aligned jobs, AI can dramatically expand our ability to serve more people.

With 2.3 million work-authorized immigrants, refugees, and asylees with professional experience and international degrees currently unemployed or underemployed in the U.S., the need far surpasses our organizational capacity.

Many employers already use AI to facilitate hiring, such as by writing job descriptions, drafting interview requisitions, and responding to applicants. A [recent survey of 1,000 U.S. business leaders](#), for example, found that nearly half were using the AI chatbot [ChatGPT](#). In theory, AI tools can help employers comb through voluminous candidates for a job, including candidates who may be well suited but

have not yet applied. AI could potentially level the playing field for job seekers who are nonnative English speakers by helping them better present themselves to English-speaking employers, according to [research from MIT](#).

By the Numbers



2.3 Million

work-authorized immigrants, refugees, and asylees with professional experience and international degrees currently unemployed or underemployed in the U.S.



Almost 1/2

of 1,000 surveyed companies are currently using AI like ChatGPT



98%

of essays by non-English speakers misidentified as written by AI in a recent Stanford study

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Stanford University researchers recently found that AI tools misidentified 98% of essays written by nonnative English speakers as having been generated by ChatGPT.

Upwardly Global is, of course, well versed in AI's risks and understands that investing in it — simply because it is trendy and hot — will not necessarily lead to the outcomes we seek. While emerging AI technologies show promise, their effectiveness in career guidance has a [spotty track record](#) with both successes and failures.

In our pilot work with an AI tool designed to support job seekers in navigating their career search, we tested whether it could recognize the education, skills, and talent of work-authorized, professional immigrants and refugees and thereby help navigate them toward skill-aligned jobs at a much faster pace than we alone can do.

A key learning is that the difference between riding a wave and missing a wave is knowing how to surf. You have to know how to pick the right wave, when to paddle, how to stand up, and so on. Before they ride the AI wave, organizations need to develop a deep understanding of AI's capabilities and how it can best help them achieve their goals. That is not always easy for organizations whose core competencies are service and advocacy, not technology.

Like everyone else diving into AI, Upwardly Global will continue to take risks and learn lessons about the challenges, biases, pitfalls, and successes of investing in the technology to address systemic barriers and achieve

greater impact. We have already learned that the burden is on us to ensure that the solutions we invest in truly serve the immigrant, refugee, and asylee communities with whom we partner.

AI and “edge case” communities

The choices organizations like ours make can have big consequences for the job-seeking communities we serve. The difference between providing high-quality, culturally relevant services versus mediocre — and even inappropriate — services is access to dignified livelihoods. Organizations like Upwardly Global exist, in fact, because mainstream tech solutions to career services fail to meet the needs of immigrant, refugee, and asylee populations. They lack cultural competence, fail to adequately recognize skills, demonstrate bias in hiring, and are too expensive.

In the parlance of bell curve population statistics, the communities we partner with are “edge cases” who are outside of the norm. Mainstream products and service developers do not accommodate edge case communities in their products and services because they do not drive enough business value compared to the “normal” or “average” person closer to the center of the bell curve.

This omission is even more pronounced in [digital services and systems](#) designed for huge scale such as AI-based software, which relies on large volumes of data to learn and perform its intended functions.

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35%

of education credentials on resumes have been misidentified by the AI tool tested by Upwardly Global



20%

of work experience credentials on resumes have been misidentified by the AI tool tested by Upwardly Global

Data used to train AI models are often laden with assumptions and biases that make the resulting algorithms underdeliver for — and in some cases discriminate against — communities on the edges.

For example, AI software that pulls from U.S.-based applicant data to read a person’s resume might succeed for the majority of people with native English language skills but largely fail for people who are just as qualified yet lack the same language proficiency. [Stanford University](#) researchers recently found that AI tools misidentified 98% of essays written by nonnative English speakers as having been generated by ChatGPT. In contrast, the same tools misidentified only 10% of essays written by native English speakers as AI-generated. When this sort of bias is automated and then scaled, it can be very harmful to qualified job seekers who lack native English language abilities.

Fortunately, as awareness rises about the biases in AI, technology providers are recognizing that inclusive design, design that works for everyone across society, is good design and can help drive business. Companies like HiredScore — which leverages fully explainable, ethical AI to support talent solutions for employers — and Pymetrics are designing AI-based solutions with inclusion at the core of their work. Upwardly Global will be releasing more information on its partnerships with ethical AI companies soon.

Any organization that exists to serve communities at the edge needs to be particularly thoughtful and deliberative about how it invests in these emerging technologies and to carefully vet potential technology provider partners to ensure that they follow inclusive design principles.

Upwardly Global: An AI test

Upwardly Global tested an AI-powered career navigation tool to learn whether the technology could accurately analyze the work and education experiences of immigrant, refugee, and asylee candidates. The tool was designed to compare work experience to labor market data, identify skills gaps, and develop a custom career roadmap to guide the candidates. Overall, our goal was to determine whether AI could potentially augment the role of a career coach.

We tested the tool with 30 resumes from candidates accessing our career coaching services and found that it underperformed on almost every measure. Education and work experience, for example, were improperly recognized 35% and 20% of the time, respectively. The skills profiles that the tool then generated, based on its interpretation of education and work experiences, contained wrong information for all 30 candidates.

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Subsequent recommendations for upskilling, training programs, and jobs were therefore ill-suited to the candidates' actual experiences and education level.

Examples of mismatched skills and job recommendations include:

- An Iraqi refugee with two years of experience as an elementary school teacher and certifications in both teaching and phlebotomy received career suggestions such as food scientist, machine learning specialist, training and development specialist, security management specialist, robotics technician, and purchasing assistant.
- A South African candidate with a Ph.D. in food security as well as 10 years of experience in food security research and health institutions management received administrative manager as their top aligned career choice.
- An Afghan refugee with 12 years of experience as a military pilot and a degree in civil engineering received zero recommendations for using their relevant skills in meaningful ways, like working as a commercial pilot.
- A lab technician from Trinidad and Tobago with a master's degree in environmental sciences and three years of experience conducting water analyses for nonprofits focused on sustainable resource management was suggested the job of petroleum engineer.
- A candidate from Turkey with a Ph.D. in economics and 10 years of experience in financial analysis, data analysis, and machine learning was recommended for an introductory course on probability and statistics.
- A product manager from Italy, with a Ph.D. and eight years of experience in the field of education technology, was given a skills profile that included being skilled at "folding bed linens" and "vacuum cleaning."

Brain Waste:

The nonrecognition of the skills (and qualifications) acquired by a refugee or immigrant professional outside of the U.S., which prevents them from finding skill-aligned work.



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The implications of such mismatching are stark for job-seeking immigrants, refugees, and asylees who might waste time pursuing training programs or jobs that are ill-suited for their education and work experience, or settle for a lower-skilled, lower-paying job that may lead to a life of poverty. Such outcomes are not only a waste of the job seeker’s talent but a missed opportunity for the American economy, which faces a historic labor shortage. With approximately 9.6 million job openings in June, employers struggle to fill positions. Shortages are felt across all sectors, but the durable goods manufacturing industry, wholesale and retail trade, and education and health services are especially impacted.

Moreover, this “brain waste,” the underutilization of educated and skilled immigrants, comes at a cost. A [2016 study by the Migration Policy Institute](#) found that college-educated immigrants employed in “low-skilled” jobs missed out on more than \$39 billion in wages, while federal, state, and local governments lost out on more than \$10 billion in unrealized tax receipts.

Learnings for organizations choosing to harness AI for greater impact

Although our initial experiment with AI to support job seeker career navigation yielded unsatisfactory results, we continue to believe that AI holds transformative potential. However, before it can be leveraged successfully for edge case communities, there are risks to address and a lot of noise and hype to cut through. Based on our experience, we offer these lessons to help guide other organizations riding the AI wave.

1) Be user-centric.

Though obvious, this point is key. You will do a better job

designing or building a tool for your workforce if you involve them in the process. This is especially true for tools designed to help “edge case” communities such as immigrants, refugees, and asylees.

First, however, it is important to understand your workforce’s needs and to clarify the specific problem you seek to address. Once you have done that, you can weigh potential solutions and explore AI technologies to determine whether they can solve your problem.



9.6 Million

job openings in the U.S.,
as of June 2023



\$39 Billion

wages missed out on by college-educated immigrants employed in “low-skilled” jobs, according to a 2016 MPI study



\$10 Billion

federal, state, and local government taxes lost in unrealized tax receipts

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For example, your workforce may be immigrants who need a quick, efficient way to connect with volunteer mentors to guide them on their career paths in the U.S. A simple solution may entail matching keywords in the job seekers' resumes with keywords in the mentors' profiles, and you may be able to do that effectively with your existing, in-house software capabilities.

You may decide that AI technologies add more complexity than you need, or you may decide that they offer the solution you seek. Either way, you will be better equipped to choose the best path forward if your workforce's specific needs drive your approach.

2) Do not invest in AI for AI's sake. Take time to understand what different AI technologies are capable of and invest in the areas where it can add value.

Resist the urge to ask, "How can we use AI to ... ?" AI is a rapidly evolving field that encompasses different technologies with different capabilities. Understanding the various types of AI and what a particular tool can offer is critical before you invest in it.

Furthermore, it is important to not only get very specific about the problems you wish to solve but to also understand how AI algorithms are designed to solve those challenges. Applying AI models to solve one specific problem is already a complex and expensive undertaking from a design and engineering standpoint. Tools that attempt to solve multiple, sequential problems can multiply the errors.



Beware the "can-do-everything" AI tool.

For instance, a tool that is designed to read a resume first, then create a skills profile based on the resume, and finally suggest specific job opportunities or courses needed to complete a skills profile can get it very wrong if it fails on its first step of interpreting the resume.

3) Use your organization's expertise when raising questions about potential tools.

Most product vendors will not understand your workforce the way you do. At Upwardly Global, for example, we know that it can be a challenge to decipher and translate resumes that are not written in native English; a product vendor, however, will be less aware that job titles on an immigrant's resume are often an approximation or an imperfect translation of complex work experiences into job titles suited for a U.S. job market. Cascading errors can occur with AI tools that then map skills or career choices based on the initial read of job titles.

Similarly, we also recognize that the increasingly available AI-powered tools for generating cover letters cannot help the immigrants, refugees, and asylees we serve to navigate the U.S. job market. That is because these individuals do not yet have the English language skills to review and adjust what such a tool would generate, and that would put them at a disadvantage.

We have therefore learned that it is necessary to ask questions about potential tools using the lens of your work. Rather than asking AI vendors whether their tools

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can read resumes, for instance, the question should be reframed to: How well can the tool interpret resumes that translate non-English experiences into their U.S. equivalents?

4) Approach technology investments as partnerships that involve co-design and commitment to common outcomes rather than simple vendor/buyer relationships.

Out-of-the-box AI solutions may emerge for organizations that work with edge case communities, but the technology is not yet there. Ensuring that a technology meets your needs will therefore require more of a partnership-based approach. AI tools will need to be developed or adjusted factoring your target community into the design rather than treating it as an edge case. Algorithms (i.e., the underlying rules) and the datasets used to train the technology on how to act and reason are especially important to discuss and fine-tune with vendors.

- **Align on partnership goals, needs, and ways of working.**

When a potential technology partner has an existing product that meets the needs of mainstream users but not quite those of edge cases, it is especially critical to explore a partnership model. Discuss the possibility of collaborating to improve the product design for your target community. Rather than buying a license from the provider, use your resources to create a more inclusive product for your target community. To do this, you will need to align with the technology partner on shared goals, desired outcomes, and how you will work together.



- **Clearly communicate and align on shared metrics for effectiveness.**

Technology providers' metrics and key performance indicators often focus on speed, scale, and cost savings, such as how fast they can churn out a cover letter. Organizations like Upwardly Global, meanwhile, tend to focus on metrics that are impact and outcome-oriented, such as whether a candidate is hired in a job commensurate with their education and experience. For partnerships to be fruitful, organizations should be internally aligned on the key metrics for measuring the tool's success, and technology providers need to factor in the metrics of the organizations making the investments.

- **Establish acceptance criteria at the outset so that all parties understand what is being worked towards.**

Product developers commonly incorporate what are known as acceptance criteria when they develop their tools. Acceptance criteria are a core part of quality assurance and typically include requirements for a

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product's functionality, usability, and performance. Establishing those criteria with technology developers can help you determine whether a tool can drive the outcomes you seek to accomplish. For example, minimum acceptance criteria for a tool designed to match immigrant job seekers with employment opportunities could be "jobs with no requirements for citizenship or U.S. professional licenses." Only job matches that exclude those requirements would be considered acceptable.

Sometimes, however, you will have to grapple with what is "good enough." For instance, if the same job-matching tool recommends a job of administrative manager to a Ph.D. scientist with 10 years of research experience, you may consider that performance unacceptable — or you may consider it to be good enough. Discussing acceptance criteria at the outset for what constitutes a good job match can help you work with the provider to improve the tool or to decide whether to use it in the first place.

- **Examine the underlying technology.**

With AI-based products, so much goes on underneath the hood. It is crucial to dive underneath the surface to understand how the tool has been taught to make decisions, reason, and correct itself.

When you are considering an AI technology, ask the provider what data was used to train the tool and how often the tool is updated with new data. You may find that the underlying dataset is not relevant for your target community or that the tool is not updated frequently enough to be a viable solution in a rapidly changing arena like the job market. You should also ask whether a tool has been used with a similar population and how

it performed. Further, ask how much human correction is factored into the model; that is, how often do software engineers correct the model based on feedback or its performance? Weak procedures for human correction are a red flag. Last, get a sense for how complex the AI solution is. How many steps are involved in solving the problem, and how well does the tool handle complexity?

Getting a good understanding of how the technology works and makes decisions can help you foresee potentially unexpected behavior and diagnose unforeseen outcomes.

- **Prototype and test — early, often, and always.**

Never select a tool based solely on a product demonstration. Be sure to run a test case even before you sign the contract. And once you have set the parameters for how you will work with a technology provider and you have agreed on the metrics and acceptance criteria, you should test, test, test. Test the prototype and all subsequent stages. Test with real people and real situations. When possible, conduct A/B tests. Testing will let you know where things stand and whether you are delivering or making progress towards delivering the value and outcomes that you desire.



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Where we are going at Upwardly Global

We are accountable to the communities with whom we partner and continually strive to deliver ever-better, higher-quality outcomes, and that includes exploring how transformative technologies can help us do so. Knowing AI's risks, however, we need to ensure that our investments are thoughtful and, more importantly, that they solve the problems of the people we partner with.

We are therefore taking a long-term approach and investing in making digital technology a core part of Upwardly Global's internal competency. Technology will continue to rapidly evolve, and that means we must develop a dynamic learning mindset and the organizational muscles to ride the AI wave toward our vision of shared prosperity for immigrant, refugee, and asylee job seekers, communities, and the U.S. economy. To do that, we have created a roadmap for digital products that aligns with our organizational mission and supports our business model and strategy. We are now executing a digital strategy that follows the roadmap to broaden and deepen our positive impact on communities.

One of our first steps is clarifying our job seekers' most crucial needs and identifying AI tools that can best address those needs. Immigrant, refugee, and asylee job seekers have little time to spare, and we believe that AI tools can save them time and effort with discrete job search tasks.

For example: An AI-powered resume enhancer can help immigrants tailor their experiences to the American job market and identify their most valued skills and experience, while an AI career-planning assistance tool can provide personalized guidance and quick access to resources and tools. AI tools can also serve as intelligent navigators, combing the internet to surface the most relevant information for job seekers and narrowing

results with dynamic filtering, or they can act as job search assistants, providing decision support, sending tailored reminders and alerts, and motivating users to take action.

These are the kind of directions we are beginning to pursue as we simultaneously work to define the minimum required functionality and expected outcomes of any tool we adopt. For instance, AI tools designed for supporting career navigation must be able to recognize and evaluate non-U.S. experience as well as they do for U.S.-centered experience. That is nonnegotiable. Expected outcomes we may adopt could include time to placement reduced, coaching time saved, or quality of placement as measured by salary. Ideally, an external AI tool would also seamlessly connect with our own internal database to automate the flow of information about users' experiences with the tool.

We are evaluating currently available products for add-on capability and seeking partnerships with technology developers who support workforce development tools and are interested in both the communities we serve and in iterating their tools over time. On the other side of this equation, as employers continue to invest in AI to support various business functions, we are piloting with HiredScore, a fully explainable ethical AI talent solution, to see if AI can further mitigate bias in hiring decisions by leveling the playing field and diversifying pipelines with immigrant, refugee, and asylee populations. We plan to publish a report soon.

With a shared sense of purpose, we can build systemic solutions that foster workforce inclusion and prosperity that benefits us all — from individuals and families in immigrant, refugee, and asylee communities to companies to the greater American economy.

More broadly, Upwardly Global will strive to be a voice for immigrant inclusion in emerging new technologies and we will share our learnings with the industry so that we all rise together.



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