SITUATIONAL AWARENESS FOR EMPLOYMENT RESILIENCE (SAFER)

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OVERVIEW

This project seeks to transform data on millions of jobs and associated skills into powerful tools for data-driven decision support aimed at workers and career coaches. We will develop and deploy personalized apps and comprehensive data visualizations of near real-time labor market data in order to enhance situational awareness of emerging job risks emanating from advances in automation or fast-moving threats, like the COVID-19 pandemic. Workers and coaches will be provided with knowledge and tools that foster increased awareness and a more proactive stance in recognizing impending job risks, transferring existing skills to future-proof jobs, and accessing reliable information on training opportunities to fill skills gaps.

DESCRIPTION

We believe it is of paramount importance for American workers to be better informed about how to chart paths to future-proof, resilient employment. Workers, career coaches, and employment agencies alike need to be empowered by both overall understanding and granular, actionable insights on the evolving labor market and resulting employment risks, whether due to encroachment by automation and AI, or other slow- and fast-moving threats to current jobs and career trajectories.

Focusing on the needs of career coaches and workers, we will: (1) develop and deploy a SAFER app (called *Movahed*, shown on right) and employment maps that let users explore job risks and possible career paths in alignment with self-reported skills, interests, and preferences, (2) scale up training of coaches to prepare them to use the app as part of career counseling services, and (3) to make the data collected via the app available to coaches, so they can guide mentees effectively and serve workers with maximum effect, even and especially in times of increased demand, whether in response to regional and national labor market trends, plant closures, or a pandemic.

The value of observing labor market trends as patterns on geographic maps has long been recognized and the ability to seamlessly zoom from state to regional and local employment patterns is taken for granted in current offerings. Why is it that no such interface – highly visual and interactive – exists for the employment space of skills and jobs? Our project will produce the first-ever, comprehensive map of the employment knowledge space so anyone can navigate the landscape of professions and skills with the familiar ease reminiscent of Google maps. The employment maps will help communicate labor market trends in the context of specific skills and professions, holistic and dynamic. With deployments ranging from web apps to large-format displays at public venues, from libraries to science museums, viewers can be reached, informed, and engaged in diverse ways, and guided to the SAFER app for personal career exploration and job coach referral.
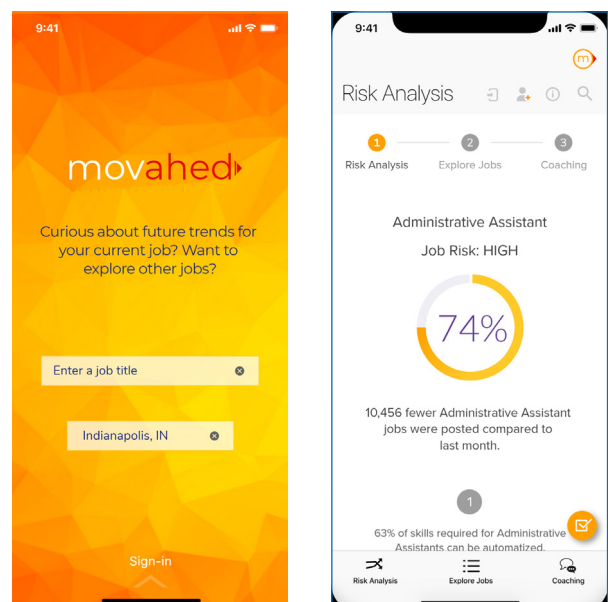
DIFFERENTIATORS

Job sites like Indeed, LinkedIn, and others serve the needs of employers, without ensuring jobs are future-proof. However, job seekers and employees need to carefully consider what job to take next to stay employed in the long run and what re- or upskilling choices to make to secure those jobs.

Most commercially available labor market information data mining and visualization services exclusively serve employers or institutions (who have the ability to pay for these services). We are unique in supporting data-driven career decision making *by individuals* (alone or facilitated though job counseling or coaching)—in a personalized way supported by self-assessments used to understand existing skills, risk aversion and preferences.

SAFER will not compete with existing job boards, but fill glaring gaps, from the *individual level,* empowering workers through personal risk scores and increased awareness of trends affecting their livelihood, to the broader *coaching and management level* – tracking and contextualizing employment risk relative to the skills landscape.

We believe that all individuals can benefit from both personal and technologically mediated career coaching, as very few will work the same job their entire life. Our approach is designed to address behavioral inertia around improving career prospects by individuals in a variety of interconnected ways: by raising awareness of global/local/personalized risks, providing engaging experiences for exploring alternatives, and by lowering barriers for behavior change. Our team is prepared to study—and to develop a theory of change—which population groups benefit from our system in arriving at desirable future career paths.

ROAD MAP

Mid-fidelity mockups of the *Movahed* app have been user tested and will be used in coach training by Skillful Indiana. Feedback will be used to implement the SAFER app and associated training materials by Q3 2020. During Q1 and Q2 of the project, we will produce a comprehensive map of the employment domain, deploy it through an *Employment Map* (see below) website in Q3,
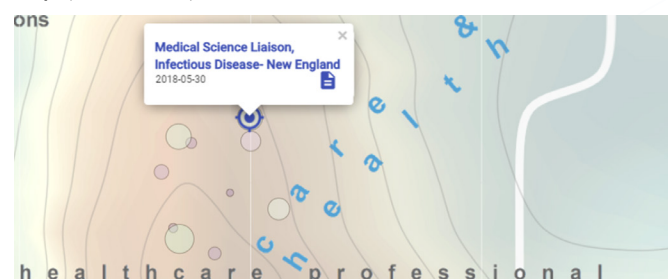
produce interactive educational materials in Q4, and make it available to career coaches and the public.

In partnership with Skillful Indiana and InStride, we will create and field test the app and employment maps as part of a comprehensive socio-technical career guidance support system that involves outreach and awareness raising campaigns, ongoing analysis of data that feeds the app and maps, a support system for coaches, and the beginning of a system for recommending re- and upskilling resources. We will field-test the system with hundreds of coaches and thousands of job seekers. At the end of Year 2, we will focus on scaling apps and maps to other states and partners for broader impacts. During Year 2, we will add monitoring and analytical capabilities to the app and the mapping system, with the *Employment Maps* ingesting risk scores and labor market data for detailed visualization, akin to the familiar tracking of hurricanes or pandemic spread.

PARTNERSHIPS

We will work closely with Skillful Indiana, a non-profit initiative of the Markle Foundation that is focused on accelerating the creation of a skills-based labor market in Indiana, and with InStride to do front-end evaluation, usability testing, and field testing of SAFER. We will collaborate with the American Library Association to disseminate information about SAFER to their membership of 57,000 libraries. In close collaboration with the Association of Science and Technology Centers, we will co-design outreach strategies and embed embed SAFER into the initiative on *AI and the Future of Work*. We embrace "track success" and hope to leverage synergies with the NASWA/NLx, Credential Engine, Competency Catalyst, Ripl.org, NCSU, and BHEF teams on creating a shared data infrastructure and channels to broadly disseminate our app to reach workers across the country.

INTELLECTUAL PROPERTY

BigKnowledge will apply its proprietary, patent-pending workflow and software to provide project partners with API access to visualizations and inference functionality and enable public access to the employment base map at least for the duration of the project. Any existing IP rights will be unaffected by the incorporation of respective components into project processes and products. Data IP rights are under discussion.