

NATIONAL SCIENCE FOUNDATION
Proposal Abstract

Proposal:1937026

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Proposal Title: Convergence Accelerator Phase I (RAISE): Upskilling for Future Jobs through NLx Talent Demand Data

Institution: CENTER FOR EMPLOYMENT SECURITY EDUCATION AND RESEARCH

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The NSF Convergence Accelerator supports team-based, multidisciplinary efforts that address challenges of national importance and show potential for deliverables in the near future.

The broader impact/potential benefit of this Convergence Accelerator Phase I project will be the creation of publicly available datasets based on aggregated job vacancy information. Team members will converge across disciplines to include private sector recruitment experts, staff of the public workforce development system, labor economists, data scientists, and software developers. The project will deliver actionable real-time labor market information (LMI) to an increasingly dynamic, open, connected, and individual-centered workforce data ecosystem. The resulting research and derived data products will contribute to the design of career planning tools for job seekers, learners, transitioning service members (veterans), and military spouses, as well as their career counselors in the public workforce system. Employers may utilize the research insights and tools to improve job matching through clearer job descriptions, thus increasing skills-based hiring. Over time, equitable access to worker-centered tools for career planning will enhance the employment resiliency of American workers.

The Convergence Accelerator Phase I project will establish infrastructure and partnerships to increase the quality, quantity, and availability of real-time LMI for the nation. Automation and frequently shifting skill requirements necessitate access to real-time information along every part of the talent pipeline. However, production of the set of resources that complements "traditional" LMI in the public workforce system - real-time information on job vacancies - has been largely confined to the private sector for over a decade. To enable an open and accessible workforce data ecosystem of the future, the team will (1) create open code to collect, validate, clean, and store data; (2) establish governance procedures to make raw data available to researchers; (3) test the technical and statistical feasibility of incorporating external data sets; (4) explore the development of predictive artificial intelligence tools to extract skill and competency phrases from job descriptions; and (5) explore the development of worker-centered resources for the American public. By emphasizing transparency and open-source tools, the project will promote innovation around skill frameworks and methods of harmonizing labor market data sets in a constantly evolving workforce.

This award reflects NSF's statutory mission and has been deemed worthy of support through evaluation using the Foundation's intellectual merit and broader impacts review criteria.