

# NATIONAL SCIENCE FOUNDATION

## Proposal Abstract

**Proposal:**1936947

**PI Name:**Abramovich , Samuel

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**Proposal Title:** Convergence Accelerator Phase I: A Universal Framework of Micro-credentials for Nation-wide Employment

**Institution:** SUNY at Buffalo

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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 to increase opportunities for American workers to earn recognition for specific knowledge and skills in ways that connect them to jobs. This benefit will be made possible by the creation of a micro-credentialing system that uses partnerships between higher education and employers to co-develop industry-valued skills and knowledge that can be taught and verified. A micro-credential is a credential that focuses on specific high-demand competencies, can be earned in online, work-based, or even informal settings, and can generally be earned in less time and at less cost than conventional post-secondary credentials. This system will employ a convergent approach, bringing together expert faculty, researchers, employers and job-seekers from industries that currently include talent and recruiting, data science, engineering, and others - all to address a challenge that can only be met by collaborative efforts. The resultant system for implementing micro-credentials will be scalable to ensure that diverse institutions are able to efficiently and effectively collaborate with employers to execute programs that directly address the needs of the workforce, thereby impacting employability on a national scale.

This Convergence Accelerator Phase I project addresses a need for a national talent ecosystem that responds to employers seeking individuals with 21st century skills. Success in an increasingly, globally competitive economy requires that employers be able to quickly hire to match specific workforce needs - a process that traditional credentials cannot address alone. This challenge is also a significant opportunity to research the resources and strategies that are needed to better match job-seekers with high demand skills to their future employers. This project will form a partnership of job-seekers, educators, and employers to co-design a universal model of a micro-credential program that can be deployed at any higher education institution to accommodate regional or national employment needs. Research will focus on the processes, procedures, and resources that are necessary to implement micro-credentials, as well as how the (multi-stakeholder) design teams operate, leading to creating theory and operational findings on how micro-credentials can be designed to ensure quality, sustainability, and stakeholder acceptance. Outcomes from the project will be a network of openly licensed, scalable, and customizable micro-credential systems and a research base that can support further development of improved credentialing processes.

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

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criteria.