

Opportunity Engineering & Analysis (OEA)

Solution (OEA)

Opportunity Engineering & Analysis (OEA) is proposed as a new form of applied data science and computer engineering that converts the education-to-employment data of institutional, experience, labor and employment structures and variables into an underlying infrastructure, or ecosystem, that is common for all members of the continuum. The development of such a science and engineering capacity together with the insights from social science can lead, as it did in big data commerce and big science, to real time use-data that automatically defines multiple likely paths to the acquisition of skills, knowledge and credentials related to personal gain and employer growth.

Question

Can modern computation and data science together with social science inquiry and evaluation successfully increase economic, social and personal returns for individuals, employers, communities and economies?

Proposal

A new center is by proposed within the Computation Institute, in conjunction with California nonprofit NLET, that will work closely with units across campus to introduce “opportunity engineering and analysis” as a new cross disciplinary capacity that places education, training, experience, cooperation, sharing, social good, employment and labor into a unified data system for operational deployment and applied research.

Problem

Aligning education, training and employment are critical for individuals, employers and the economy. However, individuals, employers, researchers and government agencies are unable to achieve the efficiencies necessary to reliably suggest education and training options leading to appropriate and likely opportunities for jobs and careers in the fast-paced ever-changing information economy.

In civilian life, the guidance that exists for job and career planning is spotty, counselor dependent and nonsystematic. In more controlled environments, such as government, research and defense, there are often higher degrees of definition for occupations, training and potential for growth, but recruiting is highly competitive.

The benefits of newer technology and more modern data systems common in consumer and commercial products and services and scientific and government research and development have not been applied to education, training and labor. In commerce and science, traditional lines between silos have been breached based on competitive incentives for revenue growth and for new discoveries.

There are huge expenditures and investments directed at aligning training with jobs and education with careers. Many of these are disconnected, managed in silos with no methods or incentives to achieve data coherence. Similarly, inequality of opportunity is a growing line of economics research but has not be combined with workforce and labor data and opportunity management by individuals seeking better wages and lives.

OEA is a partnership between the Computation Institute and the Silicon Valley based nonprofit National Laboratory for Education Transformation, www.NLET.org. Together, with multiple partners, they recently entered the MacArthur 100m & Change competition.