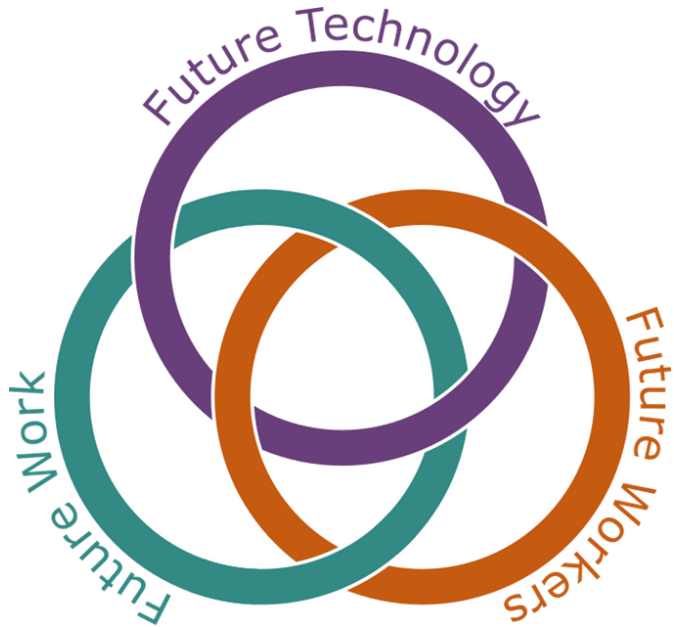


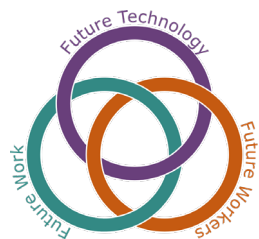


National Science Foundation



Panel 1

Ethics, Equity, and Inclusion



Award Number: 2128951

“The Future of Work at the Human-Technology Frontier”

Pls: Dr. Deb Donig, Dr. Matthew Harsh, Cal Poly, SLO

ddonig@calpoly.edu

Job Market in Ethical Technology



- **85,000+**
US jobs in tech related industries requiring “ethical” training
- **100+**
NEW ethical tech jobs posted / day in the US



LYFT

Compliance and Ethics
Program Manager



**Ethical Culture
Fieldston School**

Ethics & Technology
Coordinator



L3H Technologies

Ethics
Investigator



Google

Ethics Program
Officer

* Source: LinkedIn

VISION

- **RESEARCH**

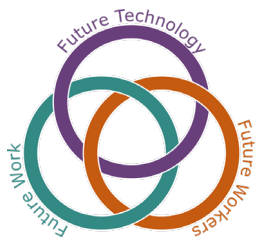
UNDERSTAND how we can empower and train the next generation of tech workforce to create a societal shift towards ethical technology

- **TEACHING**

LEAD this new field by building the first professional school of ethical technology at Cal Poly

- **PRACTICE**

TRAIN students for these jobs and work with industry to define the new profession of ethical technology



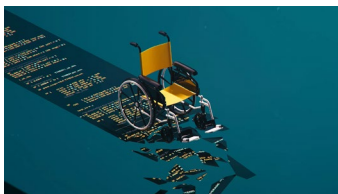
NSF Award #2129038: Combining Human and Machine Intelligence to Improve Equity and Fairness in the Work of Municipal, Public Sector Decision Making

PI(s): Motahhare Eslami, John Zimmerman

Human-Computer Interaction Institute, Carnegie Mellon University

meslami@andrew.cmu.edu

Data Innovations & Artificial Intelligence (AI) in the Work of Public Sector



Data innovations and AI aim to provide citizens with more *efficient* and *effective* services in the public sector.

However, data innovations and algorithmic systems **can inflict harm** (usually at scale) on marginalized communities under the guise of objective decision making. Some examples include:

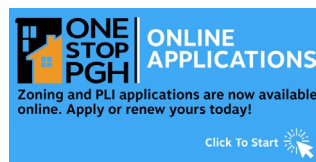
- *predictive policing tools* being biased against Black people
- *welfare resource distribution systems* taking away already established and deserved benefits from poor and working class

Research Questions

- How are public sector data and algorithmic infrastructures formed, and contribute to disparate municipal service provision?
- How might they be redesigned to address the inequities they inadvertently reinforce?

In Partnership with

Department of Permits,
Licenses, and Inspections
(PLI), City of Pittsburgh



Our team: Sarah Fox, Jessie Ramey, Bonnie Fan, Seyun Kim, Janelle Wen, Willa Yang, Sarah Chen, Jai Sawkar, Joseph Horowitz

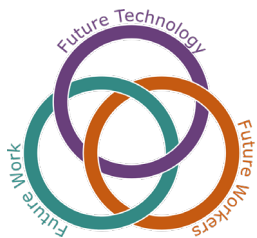
Our Vision

Envisioning new AI decision support tools that encode collectively created *equity and fairness weightings* that are communicated *transparently* to the public, *monitored* and measured based on equity outcomes, and have a form of human-AI interaction that *empowers* human decision makers.

- Co-design objective function
- Transparent communication of the objective function
- Protect worker agency
- Feedback and monitoring

What We've done so far

- Interviewing with PLI employees and local business owners regarding the application process for permits, licenses and inspections
- Running co-design workshops with various stakeholders to understand their definitions and desires of equity and fairness in the PLI process



2026398: FW-HTF-RL: Personalized Virtual Job Assistants to Prepare Individuals with Neurodevelopmental Disabilities for Entry Level IT Jobs

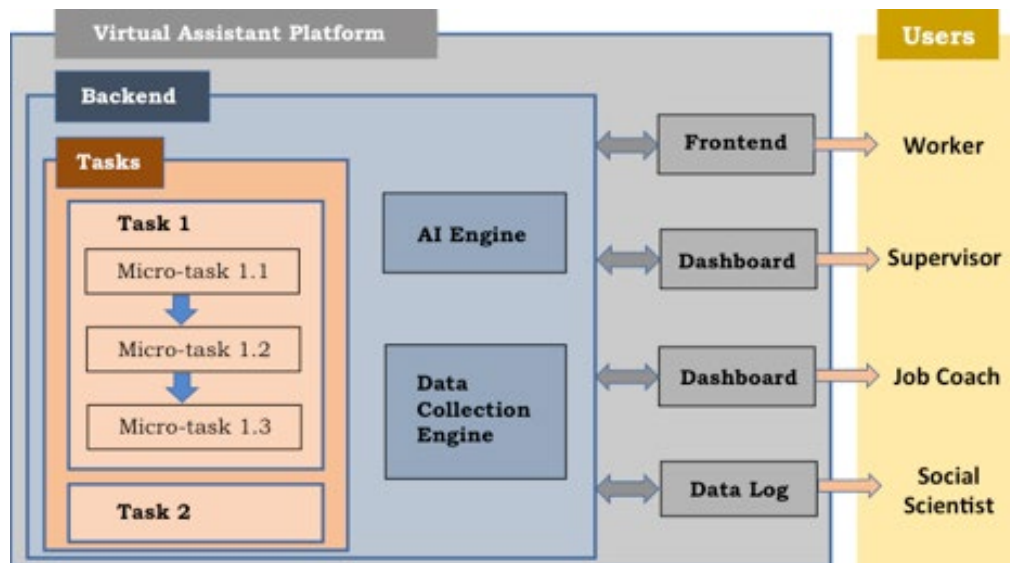
PI: Slobodan Vucetic (Temple U; vucetic@temple.edu)

Objective

- Create AI-enabled software platform (**Future Technology**)
- help individuals with mild to moderate neurodevelopmental disabilities (**Future Workers**)
- build careers in IT industry (**Future Work**)

Team

- ✓ Temple and George Mason Universities
- ✓ Expertise in CS, behavioral science, and special education
- ✓ Collaboration with vocational programs and employers



Guiding Insight

- Similarity between Applied Behavior Analysis (ABA) and best practices in job micro-tasking (e.g., MTurk)

Questions

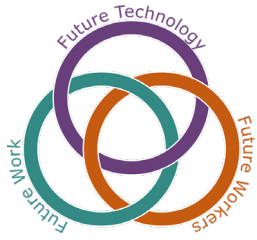
- What job tasks are appropriate
- What task analysis principles enable job decomposition and chaining
- What UI design principles minimize cognitive burden
- How to observe worker behavior unobtrusively and ethically
- When and how to provide support and intervention
- How to improve communication between workers, employers, and job coaches

Year 1

- ✓ IRB-approved pilot study with 8 neurodiverse workers:
 - Mockup of 5 Mturk HITs
 - Insight into worker attitudes, need for training and on-job support
- ✓ IRB-approved study with 10 neurodiverse and 10 control workers
 - Created a web platform similar to Mturk with monitoring
 - Mockup of 6 Mturk HITs
 - Insight into within and between group differences

Ongoing Efforts

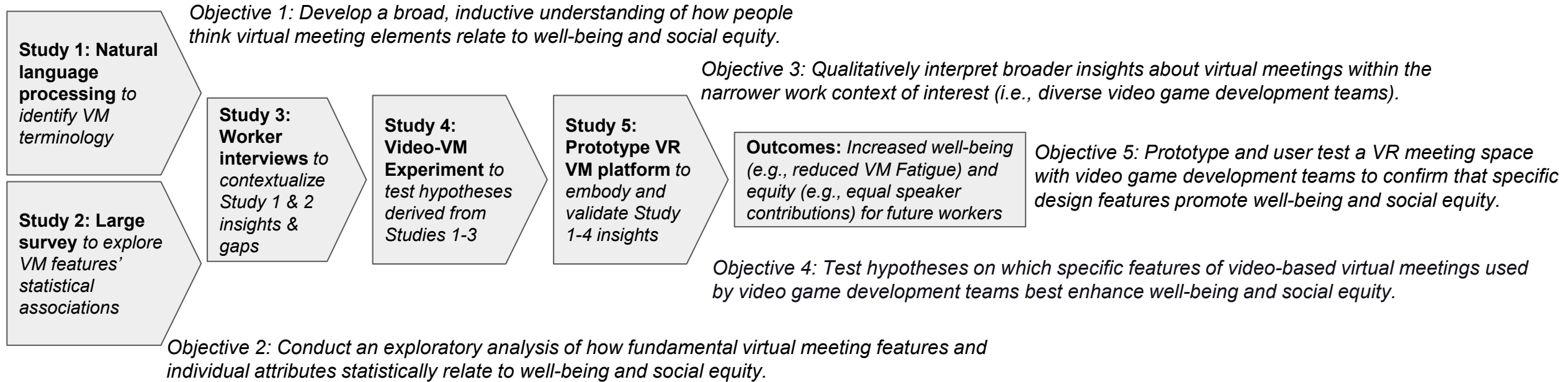
- Employer survey
- Systematic literature review
- New IRB-approved study



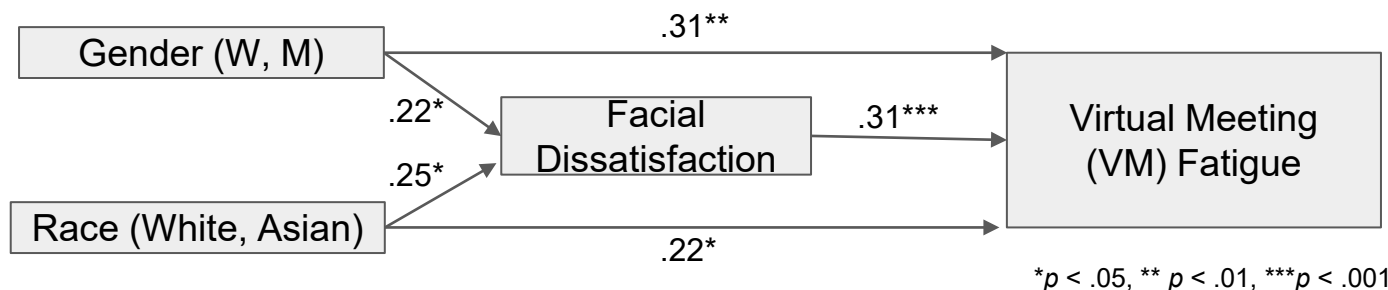
2128803: Virtual Meeting Support for Enhanced Well-Being and Equity for Game Developers

Rabindra (Robby) Ratan, Michigan State U, rar@msu.edu;

Maxwell Foxman, U of Oregon; Alex Leith, Southern Illinois U; Adam Liszkiewicz, Michigan State U; David Beyea, U of Wisconsin; Brian Klebig, Bethany Lutheran College, Brian Winn, Michigan State U



Pilot Study Results



- Indirect effect of Gender (W, M) mediated by Facial Dissatisfaction ($\beta = -.0662$, LLCI = $-.1370$, ULCI = $-.0043$, R-sq = $.1514$)
- Indirect effect of Race (W, A) mediated by Facial Dissatisfaction ($\beta = -.0752$, LLCI = $-.1457$, ULCI = $-.0129$, R-sq = $.1514$)