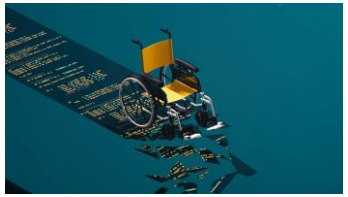
NSF Award #2129038: Combining Human and Machine Intelligence to Improve Equity and Fairness in the Work of Municipal, Public Sector Decision Making

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