The Machine Learning for Good (ML4G) Lab: Innovation and Impact at NYU's Center for Urban Science and Progress

Public health and disease surveillance

Violence, conflict, unrest, human rights

Criminal justice

Crime prediction and prevention

Event Detection and Situational Awareness
- GP Subset Scan
- Pre-syndromic surveillance

Fairness and Equity in Algorithmic Decision-Making
- Bias scan
- Multi-objective optimization

Novel ML Theory and Methods for Pattern Detection and Prediction
- Subset scanning
- Scalable Gaussian processes

Optimizing, Deploying, and Evaluating Targeted Interventions for Good
- Integrating prediction, early detection, modeling, & simulation

Allocating city services

Causal Inference
- Heterogeneous treatment effects
- Discovering natural experiments
- Change surfaces & counterfactuals

Opioid and overdose surveillance

Healthcare best practices

Environmental health and prevention