tax data for social good

pentland@mit.edu
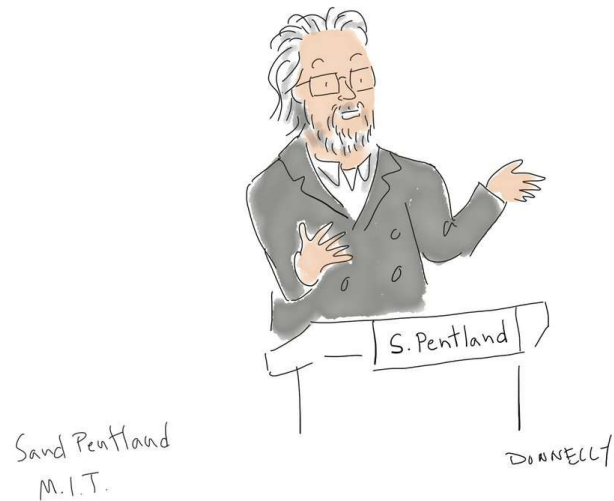
Sand Pentland
M.I.T.

Computational Social Science and safe data systems for the new economy

MIT Connection Science
http://connection.mit.edu

fairness, bias, and effectiveness in social payments
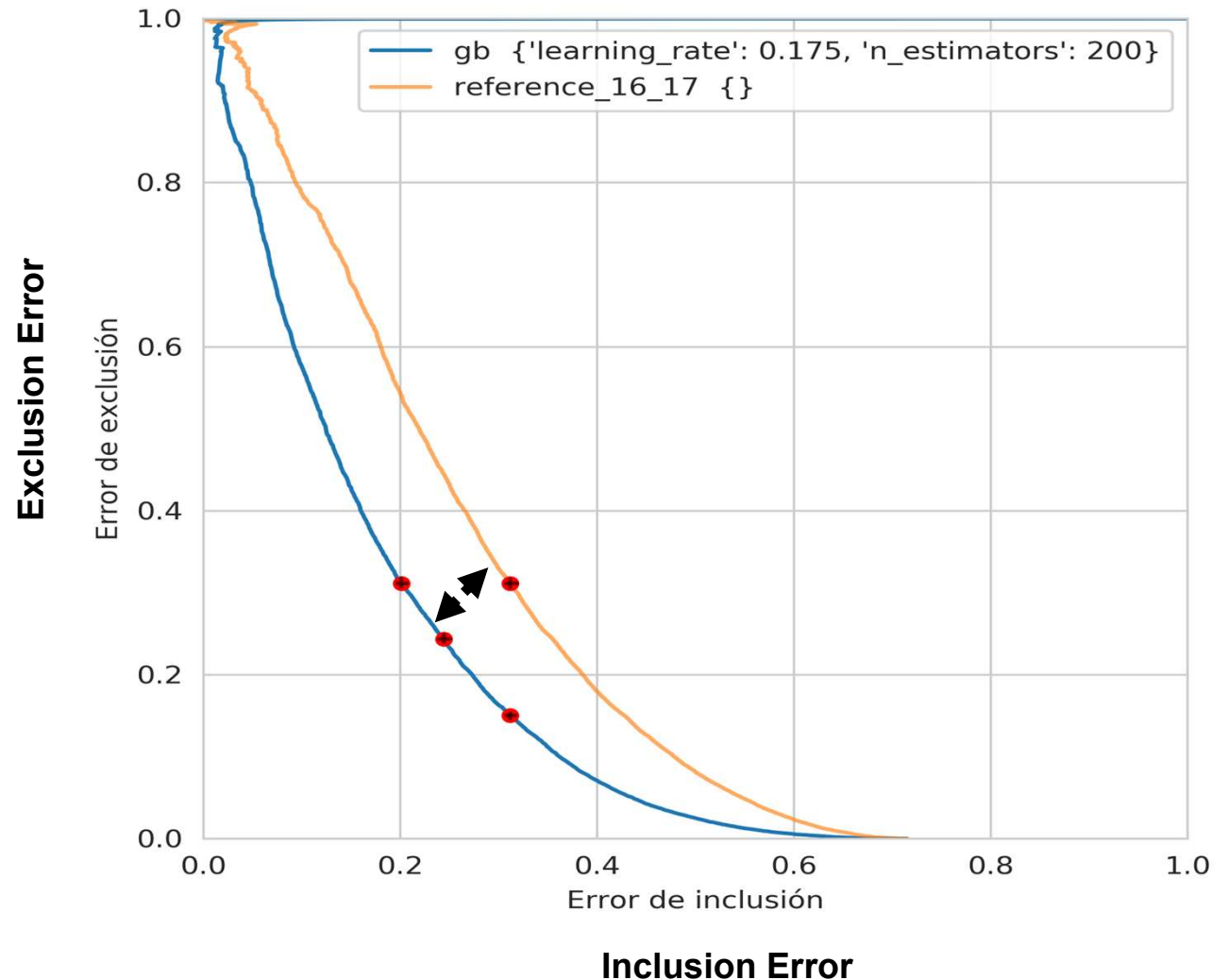
Colombia

Noriega, Bakker, Pentland

Results:

- **21%** less exclusion error

- **21%** less inclusion error

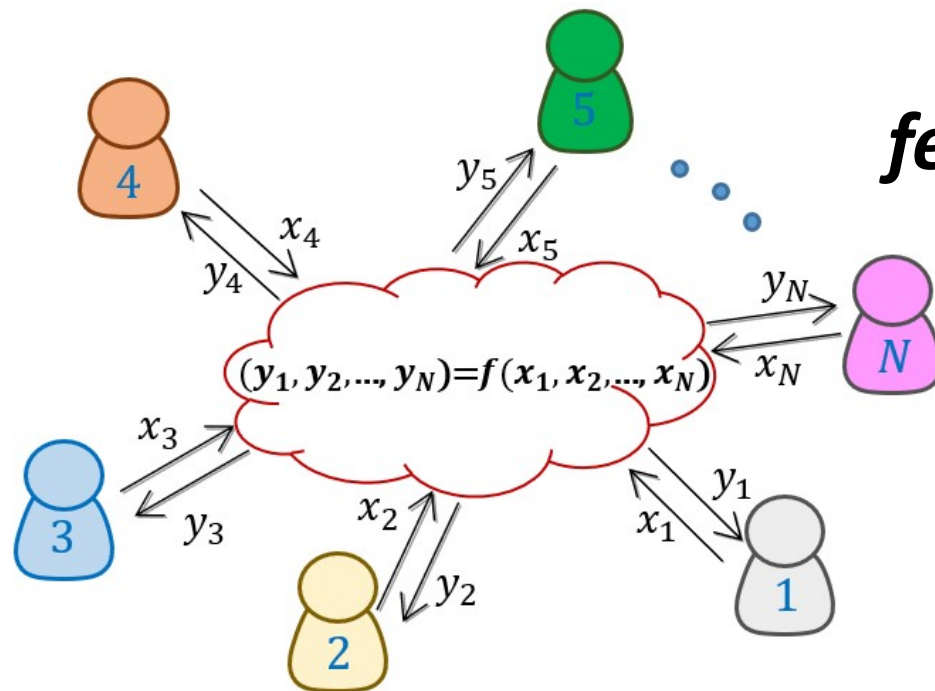- at constant budget

=> 920k excluded poor now included

PROSPERiA

fraud and avoidance: connecting the dots

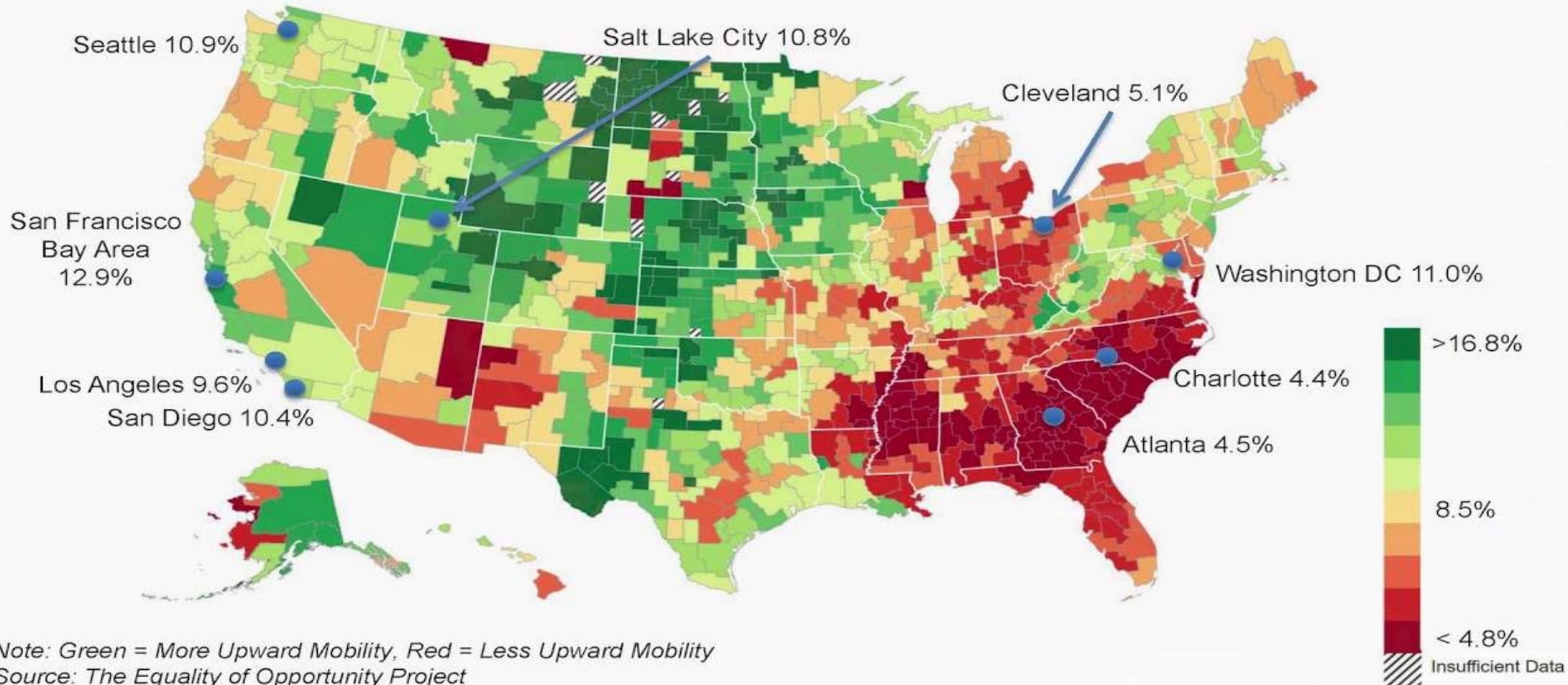$$(y_1, y_2, ..., y_N) = f(x_1, x_2, ..., x_N)$$

federated **AI / machine learning:**
you can learn from data that
you don't own and can't see
even if some of it is faulty

**Privacy and Byzantine-Tolerance in Cooperative Decision-Making,
AAMAS 2020, Dubey&Pentland**

tax data for social good

The Geography of Upward Mobility in the United States
Chances of Reaching the Top Fifth Starting from the Bottom Fifth by Metro Area

Seattle 10.9%

Salt Lake City 10.8%

Cleveland 5.1%

San Francisco Bay Area 12.9%

Washington DC 11.0%

Los Angeles 9.6%

San Diego 10.4%

Charlotte 4.4%

Atlanta 4.5%

>16.8%

8.5%

< 4.8%

Insufficient Data

Note: Green = More Upward Mobility, Red = Less Upward Mobility
Source: The Equality of Opportunity Project
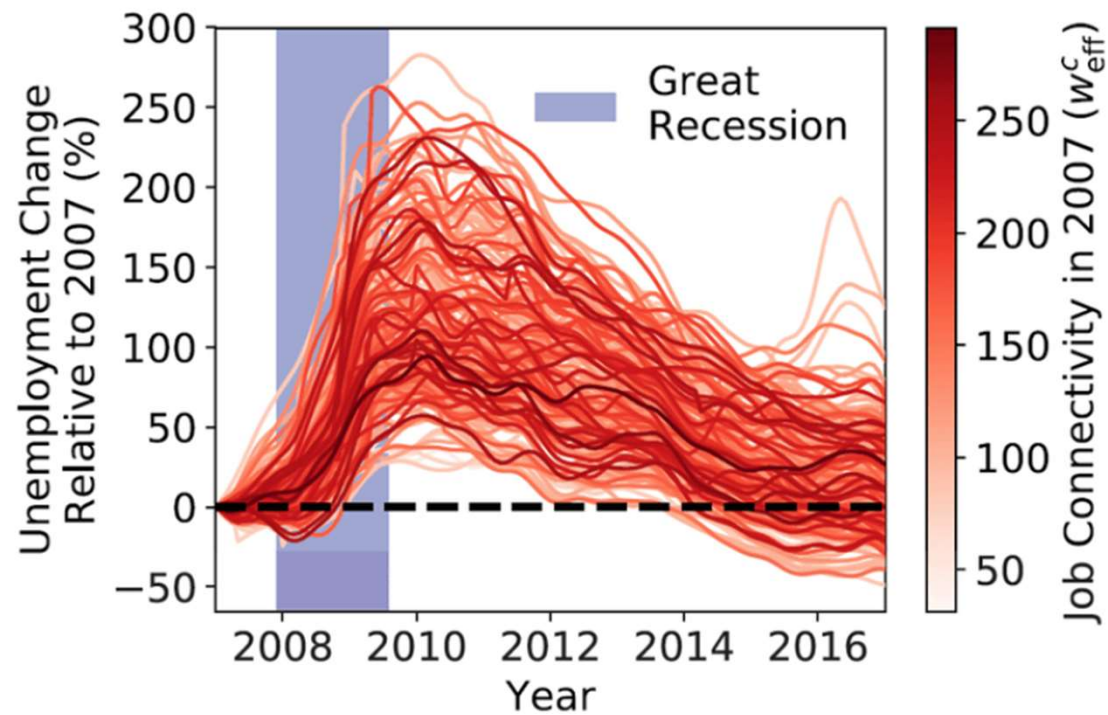
building a resilient labor market

Figure 4 *More skills connectivity between jobs increases employment resilience* [5].