

Data Science for Social Good & Public Policy

Examples, Opportunities, and Challenges

Adolfo De Unánue

Center for Data Science & Public Policy



Some of the DsaPP / DSSG projects

- Prediction of households which could cause damage to kids due Lead poisoning (City of Chicago)
- Prediction future pipeline breaks (Syracuse, NY)
 - 64% in the top 1% were predicted correctly
- Prediction high school dropouts
 - 4 years earlier
- Prediction of adverse incidents between officers and citizens (Charlotte, Nashville, San Francisco, EUA)
 - 50 % fewer false positives, 20% more true positives

Some of the DsaPP / DSSG projects

- Optimization of resource allocation sanitization resources (Nigeria)
 - 2.5 more services with the same resources
- Medical transportation optimization (Cincinnati, EUA)
 - 2,440 more people can get to the hospital faster every year
- Matching between peoples and public social services (SEDESOL, Mexico)
 - 7.5 million additional people can potentially be better matched with services they need



More details on projects at <http://dssg.uchicago.edu/projects>

Problem Templates

- Can I detect X early?
- Can I determine which X to prioritize?
- How do I improve the scheduling and assignment of X?
- Can I route X more efficiently and effectively?
- Which policies do I modify to improve X?
- How much impact is X having?
- Can I get data that helps me X?

Why isn't this more of this work happening?



Why isn't this more of this work happening?



Education/Training



**Collaborative Projects:
Real Projects, Real Data, Real Partners**



**Reusable Software
and Data**

Data Science for Social Good

Summer Fellowship

`http://dssg.uchicago.edu`

Applied Data Analytics for Public Policy

www.applieddataanalytics.org



Security

Privacy

Critical
Needs

Interpretability &
Explanations

Fairness & Ethics

From Open Data to



Open Policies

From Efficiency to



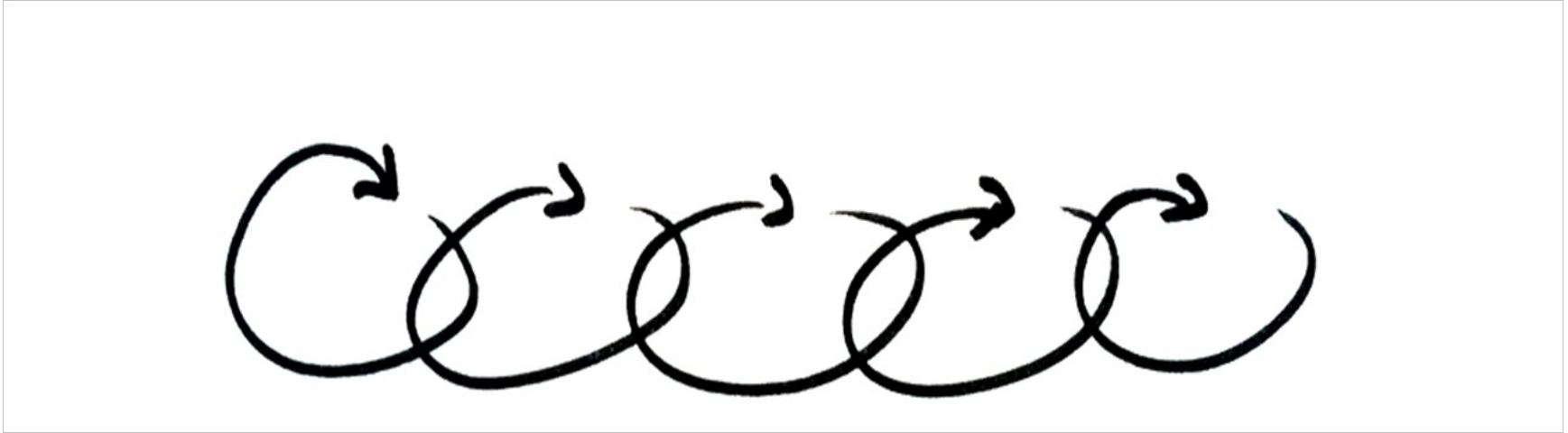
Personalized, Improved Services

From POLICIES to



policy policy policy policy policy

From one-shot “models” to



Life-Long Learning Systems

From a magic hat to



Explanation-driven, Interactive AI Systems

Adolfo De Unánue

Center for Data Science & Public Policy
University of Chicago

adolfo@uchicago.edu

Data Science for Social Good Summer Fellowship

<http://dssg.uchicago.edu>

Center for Data Science & Public Policy

<http://dsapp.uchicago.edu>

Code:

<http://github.com/dssg>