DATA-DRIVEN JUSTICE: DISRUPTING THE CYCLE OF INCARCERATION

Biweekly Call
November 16, 2016
TIPS FOR VIEWING THIS WEBINAR

- The questions box and buttons are on the right side of the webinar window.

- This box can collapse so that you can better view the presentation. To unhide the box, click the arrows on the top left corner of the panel.

- If you are having technical difficulties, please send us a message via the questions box on your right. Our organizer will reply to you privately and help resolve the issue.
TODAY’S PRESENTERS

Julia Lane
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Professor, Center for Urban Science and Progress, NYU
Provostial Fellow, Innovation Analytics

Frauke Kreuter
Professor, Joint Program in Survey Methodology, University of Maryland
Professor, Methods and Statistics, University of Mannheim
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Applied Data Analytics for Public Policy

Rayid Ghani, Julia Lane, Frauke Kreuter

November 16, 2016
Program Facilitators

Rayid Ghani
- Director, Center for Data Science and Public Policy
  Senior Fellow, Harris School of Public Policy
  Senior Fellow, Computational Institute, The University of Chicago

Frauke Kreuter

Julia Lane
- Professor, Robert F. Wagner Graduate School of Public Service, NYU
  Professor, Center for Urban Science and Progress, NYU
  Provostial Fellow, Innovation Analytics
11 million people move through 3,100 Jails

$22 Billion in costs

64% suffer from mental illness,
68% have a substance abuse disorder
44% suffer from chronic health problems
Machine Learning systems can support targeted, preventative interventions to help people at risk of interactions with the criminal justice system.

Of the top 200 predicted individuals:

- 104 went to jail within 1 year
- 19 years total jail time
Goals of the Course

1. **Train the workforce** in rigorous and modern computational data analysis methods and tools for decision-making

2. **Develop new data products** for government agencies

3. **Create new integrated data** to address cross-agency challenges

4. **Establish new networks** across agencies and geographies to address shared problems
Approach

The program provides **hands-on projects** with **real microdata** in a **secure environment** so that participants can learn the basics of how to:

- Code and collect new data
- Work with spatial data
- Manage complex data,
- Apply machine learning, text and network analysis
- Visualize relationships
- Address inference issues
- Manage privacy and confidentiality
First set of courses

Data on ex-offenders, welfare recipients and veterans

Data on housing and transportation

Joined Up Datasets

Trained Staff

New Products

New Networks
Approach
Data

**Residences**
Where do people live?

**Transit**
How can people get from home to work?

**Jobs**
Where are the jobs?
Scenarios

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# create a plot of citywide access to jobs (using `worker` metric)
# over all projection years for different job cutoffs

# make the text of the graph a bit bigger so it's easier to read
plt.rcParams.update({'font.size': 18})

# base graph object
f, ax = plt.subplots(figsize=(14,10))

# create a line for context
ax.axhline(0, linestyle='--', c='r', label='75% population')

# color scheme for plotted values (TBU: allow for any number of categories, here limited to length of cols
# iterates through J job values and add each to the plot
for i, cut in enumerate(cols):
    # get years for this group
    x = pctDF[pctDF.commu == cut] & (pctDF.acw == emp).loc[:, 'Y']
    # get percent population for this group
    y = pctDF[pctDF.commu == cut] & (pctDF.acw == emp).loc[:, 'ptPop']
    # plot this group
    ax.plot(x, y, c=cols[i], markersize=12, label='(0)k+ employees'.format(str(i/1000)))

# set axis labels
ax.set_xlabel('Population (000s of NYC residents)')
ax.set_ylabel('Year (2000s)')

# set axis limits
ax.set_xlim(0, 100)
ax.set_ylim(0, 60)

# plot's title
ax.set_title('NYC access to jobs projections: percent of labor force by number of employees within 
(60) minute travel time. (fmt: 000s)')

# add legend in pyplot's automated `best` location, with a slightly smaller font size and 2 columns
ax.legend(loc='best', fontsize=14, ncol=2)
## Logistics Overview

### Three Classes
- Different cohorts (ex-offenders, welfare recipients and veterans)
- Joined with housing, transportation and jobs data

### Class Format
- Module 1: Taught at UMD in person
- Module 2: At NYU; streamed to UC and UMD
- Module 3: At UC; streamed to NYU and UMD
- Module 4: At UMD; streamed to NYU and UC

### Additional Information
- Final reports are all virtual
- Teaching Assistants and facilitators will be at each site for each module
Logistics: Secure Environment

https://vimeo.com/184721108
Logistics: Application Procedure

- Go online to dataanalytics.umd.edu
- Registration
  - Group discounts
  - Scholarships available for government staff

Apply

ADMISSION TIMELINE

Spring 2017
Application available: September 1, 2016

Fall 2017
Application available: March 15, 2017

APPLY NOW >>
## What are the benefits to participants?

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<thead>
<tr>
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<th>Benefit</th>
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<tbody>
<tr>
<td>1</td>
<td>Learn <strong>modern tools and techniques</strong> in computational data science and social science</td>
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<tr>
<td>2</td>
<td><strong>Learn from experts</strong> from University of Chicago, New York University, and University of Maryland</td>
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<tr>
<td>3</td>
<td>Meet other professionals and researchers in this growing field and <strong>develop a network that builds your skills</strong></td>
</tr>
<tr>
<td>4</td>
<td><strong>Get access to the knowledge and experience</strong> of colleagues at other organizations</td>
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For more information on Applied Data Analytics

Visit: dataanalytics.umd.edu

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QUESTIONS?