

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

Professor, Robert F. Wagner Graduate School of Public Service, NYU
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
Head, Statistical Methods Group, German Institute for Employment Research, Nuremberg

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





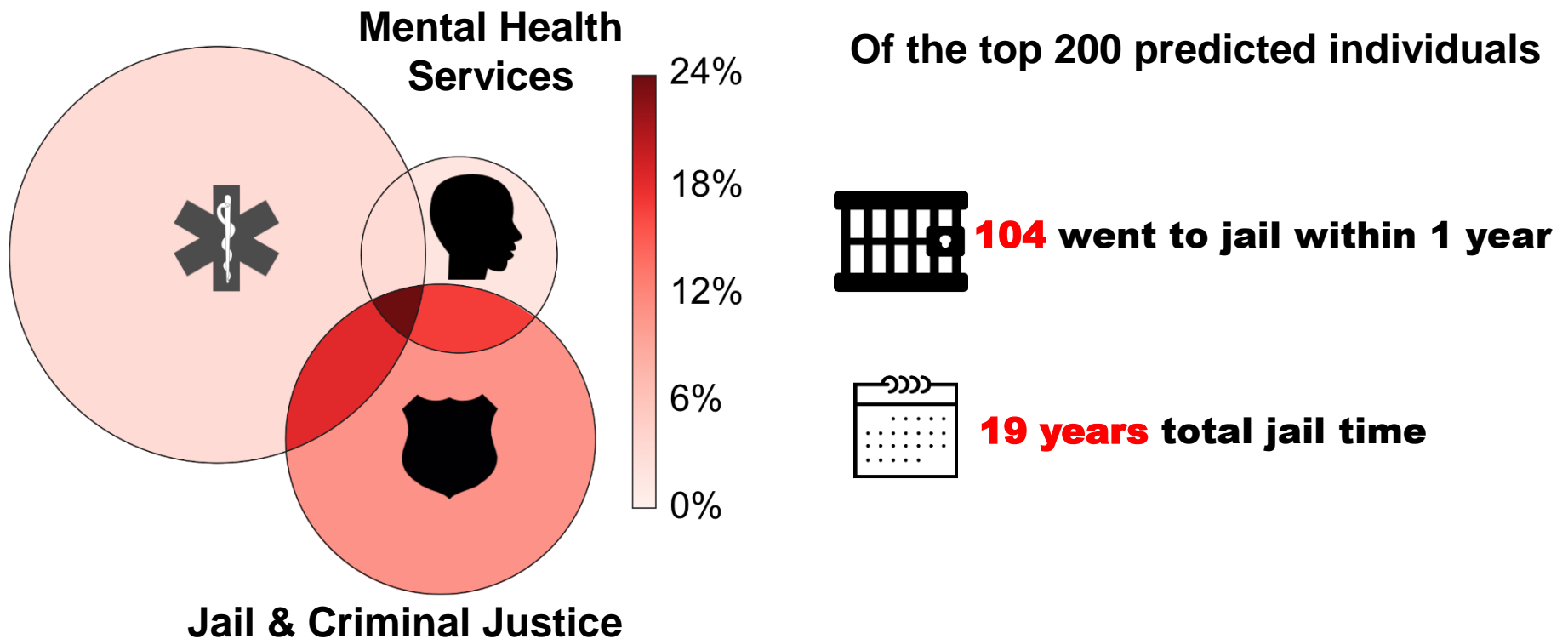
**11 million people move through
3,100 Jails**

\$22 Billion in costs

**64 % suffer from mental illness,
68% have a substance abuse disorder
44 % suffer from chronic health problems**

Cook County Department of Corrections
Lawrence W. Hall Security Detention Center

Machine Learning systems can support **targeted, preventative interventions** to help people at **risk of interactions** with the criminal justice system



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

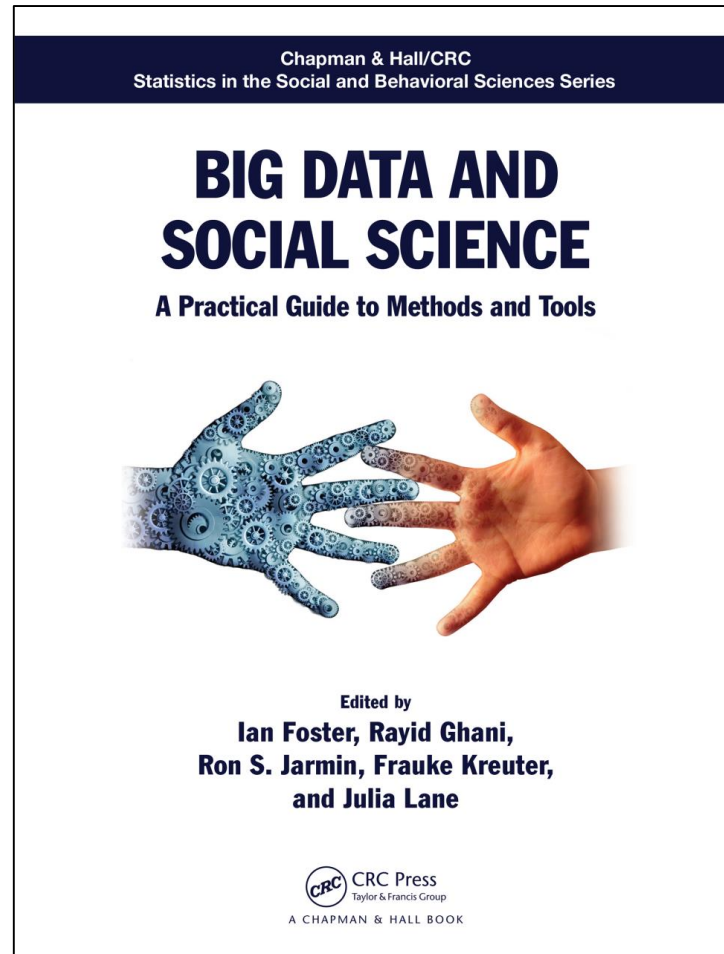
The program provides **hands-on projects** with **real microdata** in a **secure environment** so that participants can learn the basics of how to:

- 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



Approach



Data

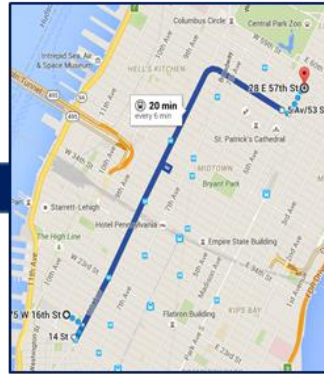
Residences

Where do people live?



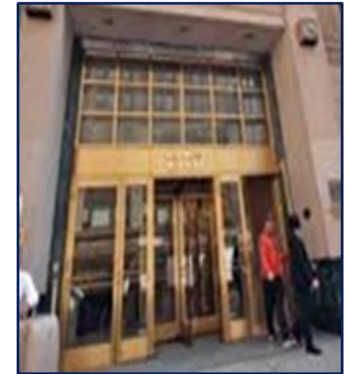
Transit

How can people get from home to work?



Jobs

Where are the jobs?



Scenarios

```
#####
# 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': 16})

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

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

# color scheme for plotted values (TBU: allow for any number of categories, here limited to length of cols)
cols = ['r', 'b', 'm', 'y', 'g', 'orange', 'r', 'b', 'm', 'y', 'g', 'orange']

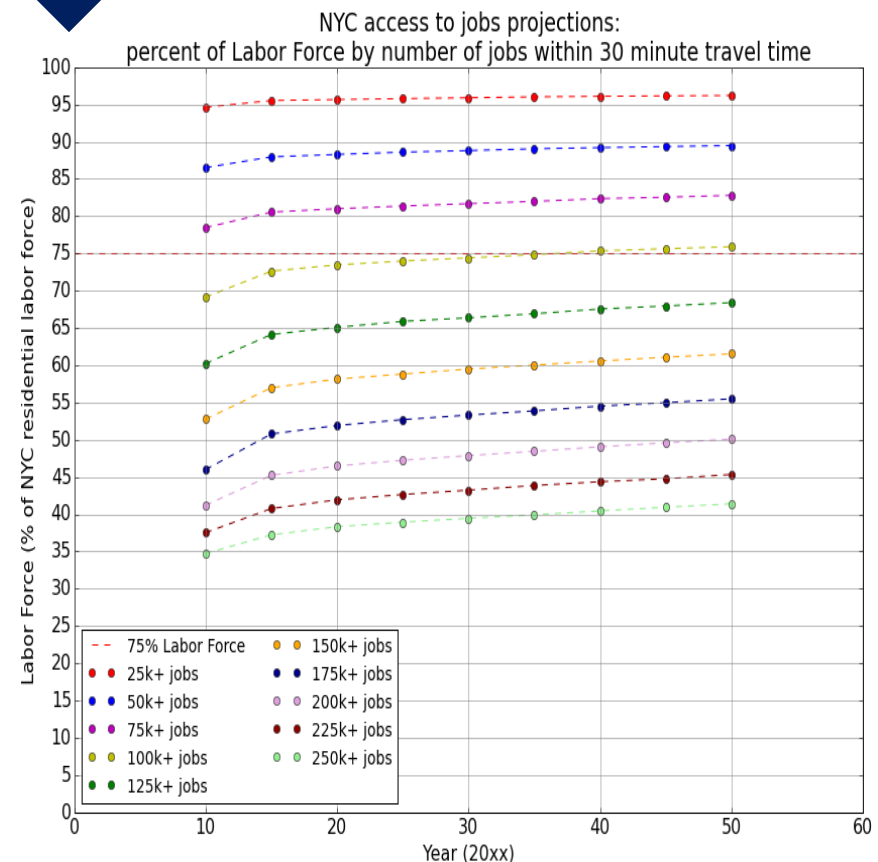
# iterate through J job values and add each to the plot
for i, cut in enumerate(J):
    # get years for this group
    x = pctDF[(pctDF.M==vM) & (pctDF.J == cut) & (pctDF.DCP_c=="emp")].loc[:, 'Y']
    # get percent population for this group
    y = pctDF[(pctDF.M==vM) & (pctDF.J == cut) & (pctDF.DCP_c=="emp")].loc[:, 'pctPop']
    # plot this group
    ax.plot(x, y, '^', c=cols[i], markersize=12, label='{0}k+ employees'.format(str(cut/1000)))

# set axis labels
ax.set_ylabel('Population (% of NYC residents)')
ax.set_xlabel('Year (20xx)')

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

# plot's title
ax.set_title('NYC access to jobs projections: \npercent of population by number of employees within \n{0} minute travel time'.format(vM))

# 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

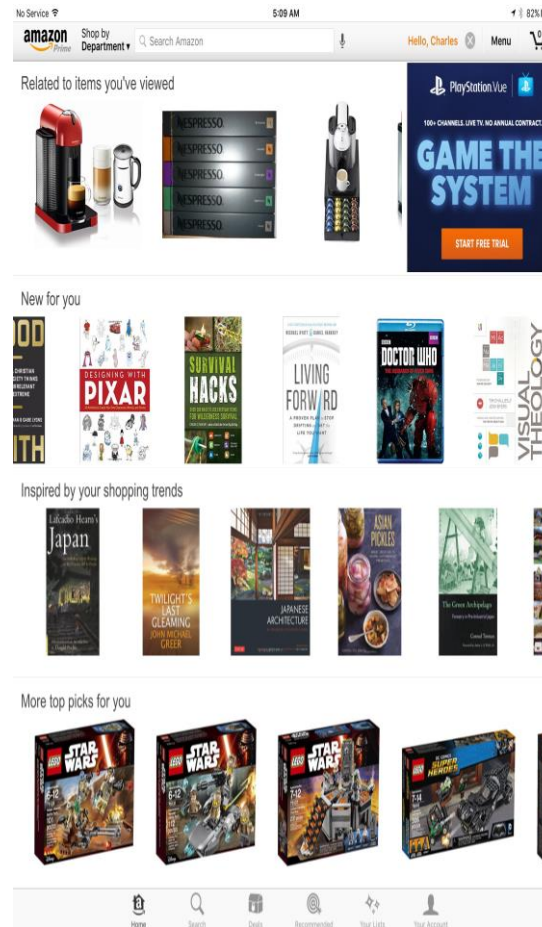
- Module 1: Taught at UMD in person
- Module 2: At NYU; streamed to UC and UMD
- Module 3: At UC; streamed to NYU and UMD
- Module 4: At UMD; streamed to NYU and UC

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?

1

Learn **modern tools and techniques** in computational data science and social science

2

Learn from experts from University of Chicago, New York University, and University of Maryland

3

Meet other professionals and researchers in this growing field and **develop a network that builds your skills**

4

Get **access to the knowledge and experience** of colleagues at other organizations

For more information on Applied Data Analytics

Visit: dataanalytics.umd.edu



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QUESTIONS?

