

# Richard W. Lu

Computational Social Scientist  
and Engineer

\*For working papers and work in progress,  
please refer to my website, listed below.



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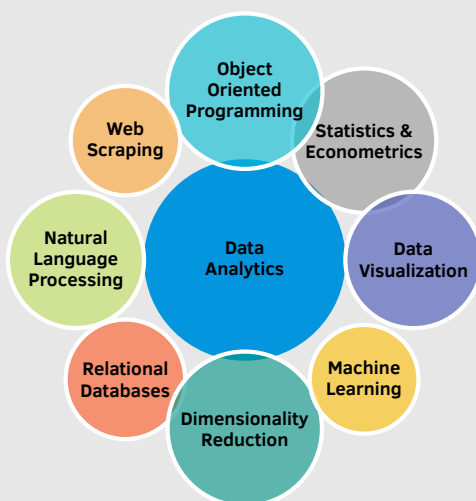


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## Skills



## Language Proficiency

+ Estimated Hours Spent in Language

Python

+4800

R

+1000

SQL

+290

HTML

+110

LaTeX

+75

Bash

+40

CSS

+20

C++

+20

JavaScript, PHP

+15

## Education

**Ph.D., Business Administration**

Aug 2014 - May 2019 (Expected)

*University of California, Berkeley*

Dissertation: Surveying Personality with Behavior: The Situational Influences and Individual Outcomes of Self-Monitoring Behavior\*

**B.S., Industrial Engineering**

Aug 2011 - Dec 2013

*Georgia Institute of Technology, GPA: 4.00*

## Selected Projects

### Imputing Cultural Fit\* (Working Paper)

- *Data Sources:* 5M+ emails (with content), culture surveys, personnel records
- Developed a generalizable methodology for imputing monthly survey responses from a single cross-sectional survey using a random forest model and NLP tools
- Overcame challenges in the machine learning pipeline such as small N, class imbalance, and model validation by bootstrapping and novel measures/metrics
- *Major Finding:* Perceiving organizational culture is distinct from valuing it, arises from observation of connected peers, and leads to differential outcomes

### Assessing Career Progression\* (Working Paper)

- *Data Sources:* 3M+ person-months of personnel records, exit data (with reason)
- Created a novel measure of move atypicality using the probability distributions of all realized job title transitions
- Leveraged econometric methods such as matching on observables, piecewise exponential hazard rate models, and fixed effects linear regression to explore mechanisms due to the archival nature of the data
- *Major Finding:* Women receive greater pay benefits but also greater performance rating detriments compared to men with the same level of career atypicality

### Visualizing Responsibility\* (Data Analysis)

- *Data Sources:* 180K+ job data (with stages), MTurk subjective rating surveys
- Extended Google's Inception-v3 convolutional neural network to evaluate the perceived responsibility of a profile picture by training on unique survey data
- Integrated class activation mapping to produce heatmaps of elements contributing to responsibility ratings, opening the black box of deep learning models
- *Major Finding:* There are differential cancellation rates for jobs by race as well as imputed responsibility

### Improving Flow Time

- *Data Sources:* inventory flow data, time studies of worker packaging
- Developed a simulation model of inventory flow and a set of decision support tools, including a layout optimization, to estimate an overall improvement of 325% on the flow time of inventory

## Communication Experience

### Teaching

- Graduate Student Instructor, "Leading People", 4 sections (My Rating/Avg. Instr. Rating) - 6.28/5.82; 6.46/5.82; 5.56/4.68; 5.81/4.68
- Graduate Student Instructor, ExecEd, "Leaderless Group Discussion", 1 section

### Selected Presentations

- Academy of Management Symposium, August 8, 2017.
- International Conference on Computational Social Science, July 11, 2017.
- The 4th International Workshop in Sequential Methodologies, July 18, 2013.