# Richard Lu

Computational Social Scientist and Engineer

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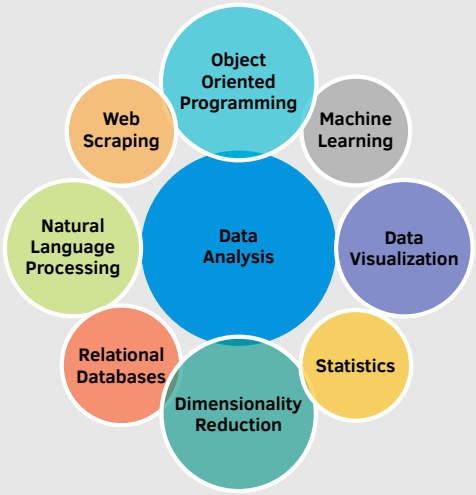
## Skills




## Language Proficiency

*Estimated Hours Spent in Language

Python *4800

R *1000

SQL *290

HTML *110

LaTeX *75

Bash *40

CSS *30

C++ *20

JavaScript, PHP *20

## Education

**Ph.D., Business Administration** Aug 2014 - Dec 2018 (Expected)
*University of California, Berkeley*

**B.S., Industrial Engineering** Aug 2011 - Dec 2013
*Georgia Institute of Technology*
GPA: 4.00

## Selected Projects

### Imputing Cultural Fit

- Developed a generalizable methodology for extending cross-sectional surveys to longitudinal data using a random forest model
- Leveraged natural language processing tools and principal components analysis to extract features from the raw content of over five million emails
- Overcame challenges in the machine learning pipeline such as small N, class imbalance, and model validation by transforming classification probabilities to a weighted mean measure, bootstrapping unbalanced classes, and designing complementary evaluation metrics, respectively

### Visualizing Responsibility

- Extended a transfer learning convolutional neural network model based on Google's Inception-v3 computer vision architecture to evaluate the perceived responsibility of a profile picture by training on unique survey data
- Integrated recent research on model interpretation in the form of class activation mapping to produce heatmaps of elements that most contributed to the responsibility ratings, opening the black box of deep learning models
- Performed multivariate linear regression analysis to identify the impact of perceived responsibility in a low-wage, technology-mediated labor market

### Assessing Career Progression

- Cleaned and extended a personnel dataset of more than three million person-month observations by creating variables such as organizational hierarchy based on direct reports and move atypicality based on all realized job title transitions
- Analyzed differential effects of move atypicality by gender on career outcomes (pay and performance) using statistical methods such as matching on observables, piecewise exponential hazard rate models, and linear regression

### Improving Flow Time

- Worked with a team of seven other individuals to improve the flow time of inventory through a 235,000 square foot distribution center
- Developed a simulation model 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 (Rating/Avg. Rating) - 6.28/5.82; 6.46/5.82; 5.56/4.68; 5.81/4.68
- Graduate Student Instructor, "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.