### Dustin V. Tran

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RESEARCH INTERESTS Convex optimization, Monte Carlo methods, Bayesian nonparametrics, stochastic processes, network analysis

EDUCATION

### Harvard University

2014 - 2015 (Expected)

S.M., Computational Science and Engineering

• Graduate Coursework: Statistical Learning, Bayesian Data Analysis, Systems Development

### University of California, Berkeley

2010 - 2014

B.A. (Highest Honors), Mathematics, Statistics

Graduate Coursework:
 Convex Optimization, Stochastic Processes, Numerical Analysis, Linear Models, Spatial Networks, Distributed Computing

Awards and Honors

- 2010 2014: Regents' and Chancellor's Scholarship (Top 0.5% of Applicants)
- 2013: Rose Hills Foundation Science & Engineering Grant
- 2010: Cal Alumni Leadership Scholarship

RESEARCH EXPERIENCE

### Harvard University, Cambridge, MA

Stochastic Optimization

September 2014 – Present

- Currently studying stochastic gradient methods under a statistical framework with Prof. Edoardo Airoldi
- Examining principled estimation with large data sets, and information theoretic results

### Earnest, San Francisco, CA

Data Scientist

May 2014 - Present

- Currently applying data/text mining tools in order to discover features in transactions data
- Built an algorithm which predicts the risk of default for a loan applicant using ensemble methods
- Developed the entire infrastructure for web reporting, which would be used for internal operations, business development, and marketing

### University of California, Berkeley, Berkeley, CA

Convex Optimization

January 2014 – May 2014

- Explored different algorithms to automate model selection in machine learning, particularly via solving the convex relaxation of the conditions, with Prof. Ben Recht
- Wrote a research paper entitled, "Convex Techniques for Model Selection"

Numerical Linear Algebra

August 2013 – December 2013

- Examined randomized algorithms for performing low rank approximations under Prof. John Strain
- Analyzed their error, robustness, and speed compared to classical techniques such as SVD, QR, and Krylov subspace methods
- Explored parallel variants for distributed computing which would apply divide and conquer

## Talks & Presentations

- [1] Facebook: Tree-like Structure in Social and Information Networks, Institute for Applied Computational Science Seminars, Cambridge, MA, November 21, 2014.
- [2] Data Analysis in R, CS 50 Seminars, Cambridge, MA, November 13, 2014.
- [3] Detecting systemic risk in financial networks, Stat 206A (Spatial Networks), Berkeley, CA, December 11, 2013.

### TEACHING EXPERIENCE

### Harvard University, Cambridge, MA

Teaching Fellow

September 2014 – Present

- Applied Math 205 (Advanced Scientific Computing: Numerical Methods)
  - Currently grading, holding office hours, and organizing course material

### University of California, Berkeley, Berkeley, CA

Teaching Assistant

- Math 10B (Methods: Calculus, Statistics, Combinatorics)
  Developed the course material with Prof. Craig Evans
- Math 128A (Numerical Analysis)
  Graded and taught supplementary sections

# Programming Skills

- Languages: Python (+numpy, +pandas, +sklearn), R, C++, JavaScript (+D3.js), {Ba,z}sh
- Software: Vim, Git, Hadoop, SQL
- Operating Systems: GNU/Linux, BSD