Dustin Tran

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Research interests

Machine learning under the Bayesian paradigm and methods for inference—with an emphasis on nonparametrics and scalability.

Education

2015–present **Ph.D.** Engineering (Machine Learning), *University of Cambridge*
Advisor: Zoubin Ghahramani.

2014–2015 **M.S.** Computational Science and Engineering, *Harvard University*
Advisor: Edoardo Airoldi. Thesis: "Large-scale principled learning with stochastic gradient methods."

2010–2014 **B.A.** Mathematics, Statistics, *University of California, Berkeley*
Advisor: Jim Pitman. Graduated with *Highest Honors*.

Awards and honors

2015–present Cambridge-Tübingen Ph.D. Fellowship (Full funding)

2014 Dorothea Klumpke Roberts Prize in Mathematics

2010–2014 Regents' and Chancellor's Scholarship (Full funding; Top 0.5% of Applicants)

2013 Rose Hills Foundation Science & Engineering Grant (Research funding)

2010 Cal Alumni Leadership Scholarship

Working papers

Dustin Tran and Edoardo M. Airoldi. Copula-augmented variational inference.

Dustin Tran, Panos Toulis, and Edoardo M. Airoldi. Principled estimation for spectral methods using implicit stochastic gradient methods.

Panos Toulis, **Dustin Tran**, and Edoardo M. Airoldi. Techniques for estimation in survival analysis using stochastic approximations.

Publications

Panos Toulis, **Dustin Tran**, and Edoardo M. Airoldi. Stable and optimal: Implicit stochast gradient descent with averaging. Submitted, 2015.

Dustin Tran. Convex techniques for model selection. Preprint arXiv:1411.7596 [math.OC], 2014.

Selected talks

- *Recent developments in convergence diagnostics for Markov chain Monte Carlo*, Missing Data Seminar, Harvard University. April 2015.
- *Implicit stochastic gradient methods for principled estimation*, Max Planck Institute for Intelligent Systems. January 2015.
- *Facebook: Tree-like structure in social and information networks*, Institute for Applied Computational Science Seminars, Harvard University. November 2014.
- *Detecting contagion in financial networks*, Spatial Networks Seminar, University of California, Berkeley. December 2013.

Teaching

Fall 2014 Teaching Fellow, **Numerical Methods** (Applied Math 205), *Harvard University*

Spring 2013 Teaching Assistant, **Methods in Calculus, Statistics, Combinatorics** (Math 10B), *University of California, Berkeley*

Summer 2011 Teaching Assistant, **Numerical Analysis** (Math 128A), *University of California, Berkeley*

Industry

5/2014–present **Data Scientist**, *Earnest*, San Francisco, CA
Currently working part-time at startup, applying tools for feature learning in transactions data. Built the primary algorithm for loan decision-making, which predicts the risk of default for a loan applicant using ensemble methods. Developed the infrastructure for web reporting, which would be used for internal operations, business development, and marketing.

Programming

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