

## Dustin V. Tran

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CONTACT INFORMATION	Child Hall, RM 110 26 Everett Street, Cambridge, MA 02138	<i>E-mail:</i> <a href="mailto:dtran@g.harvard.edu">dtran@g.harvard.edu</a> <i>Website:</i> <a href="http://dustinvtran.com">dustinvtran.com</a>
RESEARCH INTERESTS	Machine learning, algorithms, numerical analysis, convex optimization, nonparametrics, stochastic processes	
EDUCATION	<b>Harvard University</b> S.M., Computational Science and Engineering <b>University of California, Berkeley</b> B.A., Double Major in <a href="#">Mathematics</a> with Highest Honors, <a href="#">Statistics</a> <ul style="list-style-type: none"><li>• Relevant Graduate-Level Coursework: Machine Learning, Convex Optimization, Linear Models, Network Theory, Numerical Methods, Distributed Computing, Stochastic Processes</li></ul>	2014 – 2015 (Expected)   2010 – 2014
AWARDS AND HONORS	<ul style="list-style-type: none"><li>• 2010 – 2014: Regents' and Chancellor's Scholarship (Top 0.5% of Applicants)</li><li>• 2013: Rose Hills Foundation Science &amp; Engineering Grant</li><li>• 2010: Cal Alumni Leadership Scholarship</li></ul>	
RESEARCH EXPERIENCE	<b>Earnest</b> , San Francisco, CA <i>Data Scientist</i> <ul style="list-style-type: none"><li>• Currently working on data mining and active learning problems on financial transactions data at a technology startup</li></ul> <b>University of California, Berkeley</b> , Berkeley, CA <i>Nonlinear Programming</i> <ul style="list-style-type: none"><li>• Explored different algorithms to automate model selection in machine learning, particularly via solving the convex relaxation of the conditions, with Prof. Ben Recht</li><li>• Wrote a research paper entitled, "Convex Techniques for Model Selection"</li></ul> <i>Statistical Computing</i> <ul style="list-style-type: none"><li>• Designed an adaptive-rejection sampler for any log-concave probability density function, minimizing function calls under a team of three graduate statisticians</li><li>• Managed large databases using UNIX shell scripting, SQL, and computer networks</li><li>• Implemented formal testing software in R with revision control, following the official CRAN package guidelines with OOP methods</li></ul> <i>Numerical Linear Algebra</i> <ul style="list-style-type: none"><li>• Examined applications to signal processing with fast Fourier transforms under Prof. John Strain</li><li>• Analyzed conditioning and stability of iterative solvers, e.g., conjugate gradient and GMRES, and drew comparisons to direct methods</li><li>• Explored modern decomposition methods for parallel computing which apply divide and conquer techniques</li></ul> <i>Symplectic Geometry</i> <ul style="list-style-type: none"><li>• Surveyed motivations of symplectic geometry from Hamiltonian mechanics, and continued onto spectral flow and the Maslov index, 3-dimensional contact geometry, and holomorphic curves under Prof. Michael Hutchings.</li><li>• Wrote a research paper entitled, "Non-Standard Symplectic Structures via Symplectic Cohomology"</li></ul>	<b>May 2014 – Present</b>     <b>January 2014 – May 2014</b>   <b>August 2013 – December 2013</b>   <b>August 2013 – December 2013</b>   <b>January 2012 – May 2012</b>

TALKS &  
PRESENTATIONS

- [1] *Contagion and systemic risk in financial networks*, Stat 206A (Spatial Networks), Berkeley, CA, December 11, 2013.
- [2] *Holonomy*, Math 240 (Riemannian Geometry), Berkeley, CA, May 7, 2013.
- [3] *Products in cohomology and related examples*, Math 215A (Algebraic Topology), Berkeley, CA, November 16, 2011.

TEACHING  
EXPERIENCE

**University of California, Berkeley**, Berkeley, CA

*Teaching Assistant*

**January 2013 – May 2013**

- Math 10B (Methods: Calculus, Statistics, and Combinatorics)
  - Assisted in developing the course material with Prof. Craig Evans

*Teaching Assistant*

**June 2011 – August 2011**

- Math 128A (Numerical Analysis)
  - Assisted in grading and teaching supplementary sections

PROGRAMMING  
SKILLS

- Languages: Python (NumPy, pandas), C/C++, R, MATLAB, UNIX shell scripting
- Software: Vim, Git, SVN, MongoDB, PostgreSQL
- Operating Systems: GNU/Linux, BSD, Windows NT