

STEPHEN TU

- interests** Optimization, semi-definite programming, large scale kernel methods, machine learning.
- education** Ph.D. student, EECS, University of California, Berkeley, 2014–.
Advised by Prof. Benjamin Recht.
S.M., EECS, Massachusetts Institute of Technology, 2014.
Advised by Prof. Samuel Madden.
Thesis: *Fast Transactions for Multicore In-Memory Databases*.
B.A., Computer Science, University of California, Berkeley, 2011.
B.S., Mechanical Engineering, University of California, Berkeley, 2011.
- coursework** Optimization models (EE 227B), Optimization algorithms (EE 227C), Probability theory (Stat 205A), Real analysis (Math 202A), Functional analysis (Math 202B), Classical statistics (Stat 210A), High-dimensional statistics (Stat 210B), Inference and information (6.437).
- preprints** *Breaking Locality Accelerates Block Gauss-Seidel*. arXiv 2017.
Stephen Tu, Shivaram Venkataraman, Ashia C. Wilson, Alex Gittens, Michael I. Jordan, and Benjamin Recht.
Large Scale Kernel Learning using Block Coordinate Descent. arXiv 2016.
Stephen Tu, Rebecca Roelofs, Shivaram Venkataraman, and Benjamin Recht.
- publications** *Cyclades: Conflict-free Asynchronous Machine Learning*. NIPS 2016.
Xinghao Pan, Maximilian Lam, Stephen Tu, Dimitris Papailiopoulos, Ce Zhang, Michael I. Jordan, Kannan Ramchandran, Christopher Ré, and Benjamin Recht.
Low-rank Solutions of Linear Matrix Equations via Procrustes Flow. ICML 2016.
Stephen Tu, Ross Boczar, Max Simchowitz, Mahdi Soltanolkotabi, and Benjamin Recht.
Machine Learning Classification over Encrypted Data. NDSS 2015.
Raphael Bost, Raluca Ada Popa, Stephen Tu, and Shafi Goldwasser.
Fast Databases with Fast Durability and Recovery through Multicore Parallelism. OSDI 2014.
Wenting Zheng, Stephen Tu, Eddie Kohler, and Barbara Liskov.
Anti-Caching: A New Approach to Swapping in Main Memory OLTP Database Systems. VLDB 2014.
Justin DeBrabant, Andrew Pavlo, Stephen Tu, Michael Stonebraker, and Stan Zdonik.
Speedy Transactions in Multicore In-Memory Databases. SOSP 2013.
Stephen Tu, Wenting Zheng, Eddie Kohler, Barbara Liskov, and Samuel Madden.
Processing Analytical Queries over Encrypted Data. VLDB 2013.
Stephen Tu, M. Frans Kaashoek, Samuel Madden, and Nikolai Zeldovich.
The HipHop Compiler for PHP. OOPSLA 2012.
Haiping Zhao, Iain Proctor, Minghui Yang, Xin Qi, Mark Williams, Guilherme Ottoni, Charlie Gao, Andrew Paroski, Scott MacVicar, Jason Evans, and Stephen Tu.
The Case for PIQL: A Performance Insightful Query Language. SoCC 2010.
Michael Armbrust, Nick Lanham, Stephen Tu, Armando Fox, Michael Franklin, and David Patterson.

teaching Graduate Student Instructor. CS 189–*Introduction to Machine Learning*, UC Berkeley. Fall 2016.
Wrote and graded various homework and exam problems. Held weekly office hours and discussion sections, and answered student questions on Piazza.
Section notes: <https://people.eecs.berkeley.edu/~stephentu/cs189-fa16>.

industry Developer. Data-microscopes team, Qadium. Summer 2014.
Wrote the first implementation of `data-microscopes`, a Bayesian non-parametric library for Python.
Project page: <https://datamicroscopes.github.io/>
Software Engineering Intern. Compilers team, Facebook. 4/2011–8/2011.
Implemented various performance improvements in Facebook’s PHP source-to-source translator.
Software Engineering Intern. Datacenters team, Facebook. 1/2011–4/2011.
Worked on deploying a row level consistency checker for Facebook’s distributed MySQL deployment.
Software Engineering Intern. Intuit. Summer 2009.
Built tools for encoding tax specifications in XPath.
Lead Programmer. RSSP-IT, UC Berkeley. 2008-2010.
Maintained various internal tools for managing the residential dorm network at UC Berkeley.

service Paper reviewer for OSDI 2014 and NIPS 2016.

languages C, C++, Java, Scala, Python, Matlab, SQL.

references Benjamin Recht (advisor).
Associate Professor.
Electrical Engineering and Computer Sciences (EECS) and Statistics.
University of California, Berkeley.
brecht@berkeley.edu
Mahdi Soltanolkotabi.
Assistant Professor.
Ming Hsieh Department of Electrical Engineering.
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Samuel Madden.
Professor.
Electrical Engineering and Computer Science (EECS).
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