

Rebecca Y. Taft
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Education

- Massachusetts Institute of Technology** – Cambridge, MA August 2012-Present
- M.S. in Electrical Engineering and Computer Science completed June 2015
 - PhD candidate in Computer Science, Advisors: Prof. Michael Stonebraker, Prof. Frans Kaashoek
 - Teaching Assistant for Database Systems Course with Prof. Samuel Madden (Undergraduate and Graduate Course)
- Yale University** – New Haven, CT August 2004-May 2008
- B.S. in Physics (honors, magna cum laude), Phi Beta Kappa, Junior Year inductee
 - Deforest Pioneers Prize for Distinguished Creative Achievement in Physics

Work Experience

- Google** – Software Engineering Intern June 2015-August 2015
- Worked on the Ads Data Infrastructure team on an OLAP query execution engine and caching layer over Google ads data.
 - Built a tool to select materialized views based on frequent itemset mining of past client requests.
- Bloomberg LP** – Financial Software Developer August 2010-August 2012
- Worked as a software developer on the MSG team, the core Bloomberg terminal email and messaging system.
 - Helped create a new client-facing collaboration tool for writing and sharing notes. Designed and created several databases and services as well as a user interface for adding and editing notes.
- Exeter Group Consulting of Massachusetts** – IT Consultant September 2008-August 2010
- Worked on a multi-year project as a project management and monitoring partner for a large public university PeopleSoft implementation.
 - Developed data interfaces and reports using SQL, PL/SQL and Appworx technologies for an elite southern university Banner implementation.
 - Worked with a prominent healthcare client on a strategic implementation planning initiative.

Research Experience

- Database Management Systems Research** – MIT August 2012-Present
Research Assistant to Professor Michael Stonebraker
- Helped design and implement a new database benchmark modeled on genomics workloads
 - Implemented a framework for elastically scaling database resources in response to workload variation in OLTP applications
 - Studied multi-tenancy in the cloud and used predictive modeling to plan efficient use of computing resources
- Computational Studies of Complex Fluids** – Yale University February 2007-May 2008
Senior Thesis with Professor Corey O'Hern
- Created Monte Carlo computer simulations to study gelation and reversibility of weakly-attractive particulate systems under shear.
- TREND program (Training and Research Experiences in Nonlinear Dynamics)** – University of Maryland, College Park May 2007-August 2007
Program Participant with Professor Wolfgang Losert
- Performed experiments and created molecular dynamics simulations to study the dynamics of granular material under localized stress.

Selected Publications

- M. Serafini, R. Taft, A. Elmore, A. Pavlo, A. Abounaga, and M. Stonebraker. Clay: Fine-Grained Adaptive Partitioning for General Database Schemas. In *Proceedings of the VLDB Endowment*, Vol. 10, No. 4, VLDB '17, pages 445-456, 2016.
- R. Taft, W. Lang, J. Duggan, A. Elmore, M. Stonebraker, and D. DeWitt. STeP: Scalable Tenant Placement for Managing Database-as-a-Service Deployments. In *Proceedings of the Seventh ACM Symposium on Cloud Computing*, SoCC '16, pages 388-400, 2016.
- A. Elmore, V. Arora, R. Taft, A. Pavlo, D. Agrawal, and A. El Abbadi. Squall: Fine-Grained Live Reconfiguration for Partitioned Main Memory Databases. In *Proceedings of the 2015 ACM SIGMOD International Conference on Management of Data*, SIGMOD '15, pages 299-313, 2015.
- R. Taft, E. Mansour, M. Serafini, J. Duggan, A. Elmore, A. Abounaga, A. Pavlo, and M. Stonebraker. E-Store: Fine-Grained Elastic Partitioning for Distributed Transaction Processing Systems. In *Proceedings of the VLDB Endowment*, Vol. 8, No. 3, VLDB '15, pages 245-256, 2014.
- R. Taft, M. Vartak, N. Satish, N. Sundaram, S. Madden, and M. Stonebraker. GenBase: A Complex Analytics Genomics Benchmark. In *Proceedings of the 2014 ACM SIGMOD international conference on Management of Data*, SIGMOD '14, pages 177-188, 2014.

Service and Other Interests

- VLDB 2018 Program Committee
- MIT Graduate Women's Reading Group (Member: 2013-Present, President: 2013-Present)
- MIT Rowing Club (Member: 2014-Present, President: 2016-Present)