

# Zheguang Samuel Zhao

Brown University  
Department of Computer Science  
115 Waterman St  
Providence, RI 02912  
United States of America

Email: [sam@cs.brown.edu](mailto:sam@cs.brown.edu)  
Homepage: [zheguang.github.io](http://zheguang.github.io)  
LinkedIn: [www.linkedin.com/in/samuelzhao](http://www.linkedin.com/in/samuelzhao)  
Github: [github.com/zheguang](http://github.com/zheguang)  
Google Scholar: [goo.gl/DR8pSa](http://goo.gl/DR8pSa)

## Research

I am interested in the theories and designs of big data systems that are intelligent and safe. My current study focuses on efficient encrypted SQL for provable security. In the past, I have also dabbled in constraint learning for puzzle-solving AI, false-discovery control in data science, approximate data structures for visualization, database design on hybrid memory, consistency control for stochastic machine learning algorithms, and searchable encryption on mobile text messaging.

## Education

Ph.D. Candidate in Computer Science, Brown University, expected 2019.  
Advisor: Prof. Stan Zdonik, Prof. Seny Kamara

M.S. in Computer Science, Brown University, 2016.  
Advisor: Prof. Stan Zdonik

B.S. in Computer Science, University of Wisconsin at Madison, 2012.  
Advisor: Prof. Jignesh Patel

## Experiences

Brown University, RI

Research Assistant, 2014 – present.

Teaching Assistant, 2015.

Microsoft AI & Research, WA, Research Intern, 2017.

Intel Labs, CA, Research Intern, 2015.

Hadapt (Acquired by Teradata), MA, Software Engineer, 2013 – 2014.

Kosmix (Acquired by @WalmartLabs), CA, Software Engineer Intern, 2012.

Great Lakes Bioenergy Research Center, WI, Software Engineer Intern, 2010 – 2012.

## Honors

Eta Kappa Nu

Upsilon Pi Epsilon

Golden Key International Honour Society

## Articles

*Signal Search.*

J. Engelman, S. Kamara, T. Moataz and S. Zhao,

Software release: <http://github.com/encryptedsystems/Searchable-Signal-Android>.

Press release: <http://esl.cs.brown.edu/blog/signal>, April 2017.

*Controlling False Discoveries During Interactive Data Exploration.*

Z. Zhao, L. De Stefani, E. Zgraggen, C. Binnig, E. Upfal and T. Kraska,  
SIGMOD, May 2017.

*Safe Visual Data Exploration.*

Z. Zhao, E. Zgraggen, L. De Stefani, C. Binnig, E. Upfal and T. Kraska,  
SIGMOD Demo, May 2017.

*Bridging the Gap between HPC and Big Data frameworks.*

M. Anderson, S. Smith, N. Sundaram, M. Capota, Z. Zhao, S. Dullloor, N. Satish and T. Willke,  
VLDB, 2017.

*Towards Sustainable Insights.*

C. Binnig, L. De Stefani, T. Kraska, E. Upfal, E. Zgraggen and Z. Zhao,  
CIDR, January 2017.

*Towards a Benchmark for Interactive Data Exploration.*

P. Eichmann, E. Zgraggen, Z. Zhao, C. Binnig, T. Kraska.

IEEE Data Engineering Bulletin, 2016.

*Larger-than-memory Data Management on Modern Storage Hardware for In-memory OLTP Database Systems.*

L. Ma, J. Arulraj, S. Zhao, A. Pavlo, S. Dullloor, M. Giardino, J. Parkhurst, J. Gardner, K. Doshi and S. Zdonik,  
SIGMOD DaMoN, June 2016.

*VisTrees: Fast Indexes for Interactive Data Exploration.*

M. El-Hindi, Z. Zhao, C. Binnig and T. Kraska,

SIGMOD HILDA, June 2016.

*Data Tiering in Heterogeneous Memory Systems.*

S. Dullloor, A. Roy, Z. Zhao, N. Sundaram, N. Satish, R. Sankaran, J. Jackson and K. Schwan,  
EuroSys, April 2016.

## Selected Coursework

*Abstract Algebra*, Prof. Rich Schwartz

*Calculus*, Prof. Donald Passman, Gheorghe Craciun

*Randomized Algorithms for Counting, Integration and Optimization*, Prof. Paul G. Dupuis

*Cryptography*, Prof. Seny Kamara, Joseph Silverman

*Probability*, Prof. Erik Sudderth, Samuel S. Watson

*Computational Linguistics*, Prof. Eugene Charniak

*Computer Architecture*, Prof. Sherief Reda, Mark D. Hill

*Distributed Computing through Combinatorial Topology*, Prof. Maurice Herlihy

*Database Management*, Prof. Stan Zdonik, Jignesh Patel, Christopher Ré

*Microprocessor Synchronization*, Prof. Maurice Herlihy

*Algorithms and Data Structures*, Prof. Eric Vigoda, Ben Liblit

*Operating Systems*, Prof. Michael Swift

*Computer Networks*, Prof. Aditya Akella

*Physics*, Prof. Peter Timbie, Daniel Chung, Ellen Zweibel