Peter Kraft

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EDUCATION

Stanford University, Stanford CA
Ph.D. Candidate in Computer Science beginning September 2017.

Harvard University, Cambridge MA
Received Bachelor's Degree *magna cum laude* with Highest Honors in Computer Science May 2017. Finalist for Computing Research Association (CRA) Outstanding Undergraduate Researcher Award. Received Hoopes Prize for excellence in undergraduate research for senior thesis.

Munster High School, Munster IN
Graduated with Highest Honors, June 2013. Placed 5th nationwide in Intel Science Talent Search 2013.

EXPERIENCE

Graduate Student September 2017—Present
Computer Science Department, Stanford University Stanford, CA

- Advised by Matei Zaharia and Peter Bailis.
- Worked on MacroBase and Arachne projects, work published in VLDB 2019 and OSDI 2018.
- Currently developing Willump, a statistically-motivated end-to-end optimizer for ML inference.

Software Engineering Intern June 2018—September 2018
Google Mountain View, CA

- Worked with Atul Adya on the Slicer team to develop Google's sharder for stateful services.
- Project dramatically improved Slicer's load-balancing performance for key users.

Research Assistant June 2016—May 2017
Systems Group, Harvard University Cambridge, MA

- Developing ASC (Automatically Scalable Computation) project under Professor Margo Seltzer.
- Project aims to speed up unmodified binaries through automatic parallelization.
- Developed system for dynamically analyzing data dependencies of computations.
- Project became senior thesis, received Hoopes Prize for excellence in undergraduate research.

Teaching Fellow January 2017—May 2017
CS161, Harvard University Cambridge, MA

- Teaching fellow for the course CS161: Operating Systems.
- Duties include teaching hourlong weekly sections, holding office hours, and grading problem sets and exams.

Research Assistant May 2016—November 2016
HarvardNLP Group, Harvard University Cambridge, MA

- Worked under Professor Alexander Rush to develop system for predicting congressional roll-call votes.
- Created novel representation of problem that substantially outperformed prior models.
- Work published at Empirical Methods in Natural Language Processing (EMNLP) 2016.

PUBLICATIONS

Firas Abuzaid, **Peter Kraft**, Sahaana Suri, Edward Gan, Eric Xu, Atul Shenoy, Asvin Anathanarayan, John Sheu, Erik Meijer, Xi Wu, Jeffrey Naughton, Peter Bailis, Matei Zaharia, "DIFF: A Relational Interface for Large-Scale Data Explanation." Conference on Very Large Databases (VLDB) 2019.

Henry Qin, Qian Li, Jacqueline Speiser, **Peter Kraft**, John Ousterhout, "Arachne: Core-Aware Thread Management." Symposium on Operating Systems Design and Implementation (OSDI) 2018.

Peter Kraft, Hirsh Jain, Alexander Rush, "An Embedding Model For Predicting Roll-Call Votes." Empirical Methods for Natural Language Processing (EMNLP) 2016.