Christopher R. Aberger

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EXPERIENCE

Stanford University, Palo Alto, California — *November 2018-Present*
Researcher under Christopher Ré and Kunle Olukotun

SambaNova Systems, Palo Alto, California — *November 2017-Present*

Stanford University, Palo Alto, California — *Fall 2013-Summer 2018*
Research Assistant under Christopher Ré and Kunle Olukotun

Google, Mountain View, CA — *Spring 2017*
Software Engineering Intern
Materialized view query optimization in the F1 (massively distributed) database.

Apple Inc., Austin, TX — *Summer 2013*
Design Performance Intern
Machine learning applied to performance analysis for A7 chip design.

IBM, Austin, TX — *Summer 2012*
Hardware Engineering Co-op
Functional verification and lab bring-up procedures for Power8 chip.

EDUCATION

Stanford University, Stanford, California
Doctor of Philosophy in Computer Science — *Summer 2018*
Master of Science in Computer Science — *Summer 2016*
Master of Science in Electrical Engineering — *Spring 2015*

University of Wisconsin, Madison, Wisconsin — *May 2013*
Bachelor of Science in Computer Science
Bachelor of Science in Computer Engineering
Minor in Mathematics
Graduated with Highest Distinction

Zhejiang University, Hangzhou, China — *Summer 2009*
Technical communication and Mandarin course

PUBLICATIONS

HALP: High-Accuracy Low-Precision Training 2018
Christopher R. Aberger, Christopher De Sa, Megan Leszczynski, Alana Marzoev, Kunle Olukotun, Christopher Ré, and Jian Zhang
PrePrint

LevelHeaded: A Unified Engine for Business Intelligence and Linear Algebra Querying 2018
Christopher R. Aberger, Andrew Lamb, Kunle Olukotun, and Christopher Ré
ICDE

EmptyHeaded: A Relational Engine for Graph Processing 2017
Christopher R. Aberger, Andrew Lamb, Susan Tu, Andres Nötzli, Kunle Olukotun, and Christopher Ré
TODS

Mind the Gap: Briding Multi-Domain Workloads with EmptyHeaded 2017
Christopher R. Aberger, Andrew Lamb, Kunle Olukotun, and Christopher Ré
VLDB Demo

EmptyHeaded: A Relational Engine for Graph Processing 2016
Christopher R. Aberger, Susan Tu, Kunle Olukotun, and Christopher Ré
SIGMOD, **Best of**

Old Techniques for New Join Algorithms: A Case Study in RDF Processing 2016
Christopher R. Aberger, Susan Tu, Kunle Olukotun, and Christopher Ré
ICDE Workshop

Have Abstraction and Eat Performance, Too: Optimized Heterogeneous Computing with Parallel Patterns 2016
Kevin J. Brown, HyoukJoong Lee, Tiark Rompf, Arvind K. Sujeeth, Christopher De Sa, Christopher Aberger, and Kunle Olukotun
CGO

LANGUAGES

C++, Python, Scala, Java, C

SELECTED COURSES

University of Wisconsin-Madison
Advanced Computer Architecture I (Superscalar design) (ECE 752)
Advanced Computer Architecture II (Multi-core design) (ECE 757)
Digital Engineering Laboratory (ECE 554)
Digital System Design and Synthesis (ECE 555)
Digital Signal Processing (ECE 431)
Operating Systems (CS 537)
Computer Graphics (CS 559)
Algorithms (CS 577)

Stanford University
Databases (CS 145)
Automata and Complexity Theory (CS 154)
Logic (CS 157)
Programming Languages (CS 242)
Topics in Database Management Systems (CS 345)
Program Analysis and Optimizations (CS 243)
Advanced Topics in Operating Systems (CS 240)
Machine Learning (CS 229)

AWARDS

2008, La Crosse Community Foundation Engineering Scholarship
2008-2012, Wisconsin Academic Excellence Scholarship
2009, 2010, Claude and Dora Richardson Engineering Scholarship
2010, Polygon Excellence in Engineering Scholarship
2010-2011, International Engineering Consortium Everitt Award Winner
2011-2012, Tau Beta Pi National Scholar
2012, Fred W. and Josephine H. Colbeck Scholarship Award