Christopher R. Aberger

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Education

Stanford University, Palo Alto, California **Present**
Doctor of Philosophy in Computer Science

Stanford University, Palo Alto, California **Expected Spring 2015**
Master of Science in Electrical Engineering
with specialization in **Software Systems**

University of Wisconsin, Madison, Wisconsin **May 2013**
Bachelor of Science in Computer Science
Bachelor of Science in Computer Engineering
Minor in Mathematics

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

Professional Experience

Stanford University, Palo Alto, California **Fall 2013-Present**
Research Assistant
High performance database research under Professors Christopher Ré and Kunle Olukuton. Designing a query engine that bridges the gap between cutting edge database research and modern hardware trends. The engine performs worst case optimal relational joins which can have an asymptotic advantage over the join plan produced by most relation engine. Engine targets NUMA architectures. Other topics considered include but are not limited to graph compression, analytical algorithms, functional programming models (MapReduce), and distributed computation.

Apple Inc., Austin, TX **Summer 2013**
Design Performance Intern
Applied machine learning to performance analysis of A7 chip design.

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

Epic Systems, Madison, WI **Summers 2010, 2011**
Finance Intern

Programming Languages

Scala, C, C++, Java, JavaScript, Python, Perl, SQL, OpenGL, WebGL, XML, Haskell, Matlab, ZeroMQ, Mesos

Awards

2010-2011, International Engineering Consortium Everitt Award Winner
2009, 2010, Claude and Dora Richardson Engineering Scholarship
2011-2012, Tau Beta Pi National Scholar
2012, Fred W. and Josephine H. Colbeck Scholarship Award
2010, Polygon Excellence in Engineering Scholarship
2008-2012, Wisconsin Academic Excellence Scholarship
2008, La Crosse Community Foundation Engineering Scholarship
2008, La Crosse Central High School graduation rank: 1/317

Selected Design Projects

The OptiGraph Domain Specific Language **Fall 2014**
Designed a purely functional domain specific language (DSL) for graph analytics in the Delite compiler and runtime. Project included added a dynamic scheduler to the Delite runtime for peak performance.

WebGL Demo **Spring 2013**
Open ended graphics course project implemented in JavaScript using the WebGL API. Learned how to utilize a device's GPU in a browser without plugins. Built a low-level, self-contained, extensible graphics library.

Selected Courses

University of Wisconsin-Madison
Advanced Computer Architecture I (Superscalar design) (ECE 752)
Advanced Computer Architecture || (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)
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)
Automata and Complexity Theory (CS 154)