G. ADAM COVINGTON
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Summary

Computer Engineer in search of a full time job. Special area interests include artificial intelligence, data mining, clustering, data visualization, hardware-software design, and analysis. Self motivated dependable, with strong analytical, communication, and organizational skills. Willing to travel.

Education

Washington University in St. Louis
M.S. in Computer Engineering
Graduated: December 2006
Thesis: Architecture for Document Clustering in
    Reconfigurable Hardware

Western Michigan University, Kalamazoo, Michigan
B.S. in Computer Engineering
Graduated: April 2003

University of Stuttgart; Summer University Program; Summer 2002

Technical Skills
Computer Languages:
   C, C++, VHDL, Verilog, PHP, Perl/Python, Java, JavaScript
Databases:
   MySQL, PostgreSQL
Operating Systems of Preference:
   Linux, Android

Technical Experience

Altos Research, Inc.   Sunnyvale, CA   February 2017 – Present
Senior Software Engineer (Consultant/Contractor)
- Full Stack development using Scala, Angular 8, PostgreSQL
- Created PNG/PDF generation system using headless Chrome
- Utilized D3, AWS, Facebook Marketing libraries

Altus Fidelitas, Inc.   Milpitas, CA   January 2013 – Present
Founder, CEO, Programmer
- Built prototype music download program using JS and released in Google Chrome store
- Dynamic visualizations for Performance Art
- Front and back end development: MySQL, PHP, JavaScript, CSS
- Utilized D3, jQuery libraries
- Utilized AWS: EC2, and RDS

PonoMusic   San Francisco, CA   February 2016 – February 2017
Senior Software Engineer
- Implemented cross platform music management application (OS X, Windows)
- Library management, Device detection, Firmware updates, Downloads, Transfers, Playback
- CD/DVD ripping, Tag editing, Volume leveling, NAS support, External DAC support
- Utilized Qt 5.7, Google Breakpad, MusicBrainz API, Google Test, AWS S3, VLC
- Updated and supported server side code (APEX)

Mindjet / Spigit   San Francisco, CA   September 2014 – January 2016
Software Engineer
- Full Stack development utilizing PostgreSQL, Node.js
- Participated in team to architect and implement next generation (crowdsourcing) innovation platform
- Implemented integration testing for backend code
- Refactored and debugged existing innovation platform (Java, MySQL)
- Encouraged and supported company migration from SVN to Git

Stanford University   Stanford, CA   December 2007 – August 2014
Research Associate
- Initiated and negotiated a contract for a new NetFPGA 4x10G card named SUME
- Obtained part donations for SUME prototypes and academic boards
- Managed the SUME project from October 2012 through October 2013
- Managed Open Source Network Tester (OSNT) project (Distributed team UK, US)

- Managed NetFPGA 1G and 10G project since 2009 (Distributed team UK, Italy, US)
- Organized/taught week long NetFPGA Camp (2010, 2011, 2012, 2013)
- Provided support for NetFPGA users worldwide (UK, Australia, Netherlands, India, China, …)
- Organized/presented NetFPGA tutorials (1 Scotland, 2 Czech Republic, 1 Japan, 1 Ecuador, 7 US)
- Wrote/edited/debugged code in C, Java, Perl, Python, Verilog
- Maintained/edited NetFPGA website: PHP, CSS, JavaScript
- Helped identify, and solve NetFPGA 1G power supply issues
- Helped the development of OpenFlow on the NetFPGA 1G

Washington University   St. Louis, MO   March 2007 – November 2007
Research Associate
- Designed, Implemented, and Verified a Track Clustering Algorithm on an FPGA (Verilog)
- Built test computers for the NetFPGA project at Stanford
- Helped debug and verify Verilog designs
- Created testing instructions for NetFPGA releases
- Participated in the Alpha program for the NetFPGA

Washington University   St. Louis, MO   November 2004 - December 2006
Research Assistant
- Participated on a team to support a larger project that funded multiple graduate students
- Designed, Implemented, and Verified a K-means Clustering Algorithm on an FPGA (VHDL)
- Developed a software simulation of HAIL to test and demonstrate operating characteristics

Washington University   St. Louis, MO   May 2004 - August 2004
Research Intern
- Worked in the Media and Machines Lab
- Implemented motion planning, collision detection algorithms in C++
- Supervised summer High School students creating mini robots

Miller Auditorium   Kalamazoo, MI   September 2001 - April 2002
Stage Assistant
- Participated on a team to make sure set construction and breakdown went smoothly
- Distributed equipment, sound boards, instruments to the appropriate sites
- Setup stage lighting; positioned and filtered lighting equipment to enhance productions
- Disassembled stage sets for several theater productions
- Demonstrated willingness to work hard

Blue Water Computers   St. Clair, MI   June - August 1999
Computer repair technician/custom builder
- Learned many troubleshooting skills to isolate hardware and software problems
- Installed computer components into IBM compatible computers (sound and video cards, memory, hard disks, CPUs, Motherboards, disk drives, etc.)
- Reported project status to manager daily

Papers
BeHop: A Testbed for Dense WiFi Networks; Yiannis Yiakoumis, Manu Bansal, G. Adam Covington, Johan van Reijendam, Sachin Katti, Nick McKeown; ACM SIGMOBILE Mobile Computing and Communications Review 18 (3), 71-80; January, 2015.

NetFPGA SUME: Toward 100Gb/s Research Commodity; Noa Zilberman, Yury Audzevich, G. Adam Covington, Andrew W. Moore; IEEE Micro: Novel Architectures for High Speed Data Center Interconnects, Sept-Oct 2014 (Accepted)

OSNT: Open Source Network Tester; Gianni Antichi, Muhammad Shahbaz, Yilong Geng, Noa Zilberman, Adam Covington, Marc Bruyere, Nick McKeown, Nick Feamster, Bob Felderman, Michaela Blott, Andrew W. Moore, Phillppe Owezarski; IEEE Special Issue-Open Source for

Networking: Development and Experimentation, September 2014 (Accepted)

Encouraging Reusable Network Hardware Design; G. Adam Covington, Glen Gibb, Jad Naous, John W. Lockwood, Nick McKeown; International Conference on Microelectronic Systems Education (MSE); San Francisco, CA; July 25-27, 2009.

Implementing an OpenFlow Switch on the NetFPGA Platform; Jad Naous, David Erickson, G. Adam Covington, Guido Appenzeller, Nick McKeown; ACM/IEEE Symposium on Architectures for Networking and Communications Systems; San Jose, CA; November 6-7, 2008.

Intelligent Avionics with Advanced Clustering; John Meier, Todd Sproull, G. Adam Covington, John W. Lockwood; IEEE Aerospace Conference; Big Sky, MT; March 3-8, 2008.

Streaming Hierarchical Clustering for Concept Mining; Moshe Looks, Andrew Levine, G. Adam Covington, Ronald P. Loui, John W. Lockwood, Young H. Cho; IEEE Aerospace Conference; Big Sky, MT; March 3-10, 2007.

High Speed Document Clustering in Reconfigurable Hardware; by G. Adam Covington, Charles L.G. Comstock, Andrew A. Levine, John W. Lockwood, Young H. Cho; 16th Annual Conference on Field Programmable Logic and Applications (FPL); Madrid, Spain; August 28-30, 2006.

HAIL: A Hardware-Accelerated Algorithm for Language Identification; by Charles M. Kastner, G. Adam Covington, Andrew A. Levine, John W. Lockwood; 15th Annual Conference on Field Programmable Logic and Applications (FPL); Tampere, Finland; August 24-26, 2005.

A 3-axis acceleration sensor data acquisition instrument system, by Asumadu, J.A.; La Belle, V.; Od'Neal, R.; Covington, G. A; Instrumentation and Measurement Technology Conference, 2004. IMTC 04. Proceedings of the 21st IEEE, Como, Italy May 18-20, 2004.

Volunteer Experience

Miller Auditorium   Kalamazoo, MI   September 2000 - April 2003

Volunteer Usher
- Assisted patrons locate their seats
- Answered patron's questions about the theater and performances
- Demonstrated interpersonal communication skills

Selfridge Air Museum   Mt. Clemons, MI   April - August 1999
- Disassembled two Beechcraft D-18 (Twin Beech) airplanes for parts to restore a third plane
- Gained mechanical problem solving skills

Design Projects

Decision Trees - Developed and analyzed pruned vs. non-pruned Decision Trees
Neural Networks - Designed Neural Network with a varying number of hidden layers and neurons
Bayesian Learning - Developed and analyzed a Naïve Bayesian Classifier
EM Algorithm - Searched for motifs without knowing the length of the motif
Network Attached Encryption Device - Created solution for encrypting credit card transactions
Soft Floating-Point Unit - Used the Intel IXP as a floating-point unit
Vision Programs - Used edge detection and smoothing filters for motion tracking
Guitar Pedals - Created circuit board layout, etched boards, soldered components, and tested performance

Honors & Activities

Distinguished Master of Science Fellowship/Scholarship at Washington University in St. Louis
Attended Bonior Congressional Camp sponsored by Senator Bonior
Certified SCUBA Diver
Baseball
Rock Climbing
Cycling