Alex Lemann

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For full text of papers, posters and slides see: `http://www.cs.earlham.edu/~lemanal/`

Curriculum Vitae/Resume

Education

B.A. Computer Science, Earlham College, May 2006

Work

2007 Fall - Present — Member / Owner — Caktus Consulting Group, LLC

With three partners, built a small company from the ground up. Developed a portfolio of projects and customers in order to maintain constant work. Wrote code for a number of projects including web applications and desktop based applications.

`http://www.caktusgroup.com/`

2007 Summer — Assistant Workshop Instructor — SCxy Education Program, The National Computational Science Institute (NCSI) & National Institute for Technology and Liberal Education (NITLE)

Developed curriculum for and taught workshops for undergraduate students and professors. Workshops involved an introduction to parallel and distributed computing, MPI programming, computational biology, and computational chemistry.

`http://www.sc-education.org/`

2006 Summer - 2007 Summer — Post-Baccalaureate Researcher — Charlie Peck

Designed and created small form factor clusters, *LittleFe* units, for computational science education workshops and use in High school and Undergraduate classrooms. Migrated an existing cluster education live CD distribution (BCCD) to an installed version to be run on *LittleFe* units. Worked on a framework to benchmark various combinations of MPI implementations, underlying network fabrics, and applications in order to compare Open-MPI to its predecessors.

`http://www.littlefe.net/`

2006 Summer - Current — Earlham Energy Awareness Project (EEAP)

Worked with administration to institute a program whereby students living in college owned houses are financially rewarded for saving energy. Created a web application for adding data from house bills and keeping

students aware of their current energy consumption as compared to previous years. Secured funding for and developed an embedded system for automated electricity usage updates using power monitoring hardware and single board computers.

`http://eeap.cs.earlham.edu/`

2005 Winter - 2006 Spring — Research Student — Charlie Peck

Developed a project to test TCP latency through the network stack in the Linux kernel in order to determine potential portions of code to optimize.

`http://cluster.earlham.edu/`

2005 Winter — Teaching Assistant, CS128 Programming and Problem Solving — Charlie Peck

Held lab hours. Helped students learn how to write and debug code as well as solve problems.

2005 Summer — Research Student — Charlie Peck

Implemented statistical tests to verify accuracy between releases of the molecular dynamics distributed computing application *Folding@Clusters*.

`http://cluster.earlham.edu/`

2004 Summer — Research Student — Jim Rogers

Worked on formalizations for natural language processing. Developed data structures to store n-dimensional trees representing an extension of Context-Free Grammars as strings, store them efficiently in memory, and for the 3-dimensional case, an algorithm to parse strings into trees.

`http://cs.earlham.edu/~theory/`

2003 Spring to 2006 Spring — Student Worker — Earlham CS Hardware Interface Project

Developed remote wind monitoring system for wind prospecting. This involved development on an embedded single board computer, creating a power system using solar panels, and interfacing with anemometers. Maintained local weather station.

`http://cs.earlham.edu/~hip/`

Papers Presented

Counting Twin Primes in Residue Classes. Alex Lemann. Earlham College CS Senior Project Colloquium. Fall, 2005.

The Yield Operation for Multi-Dimensional Trees. David Brown, Ian Kelly, Colin Kern, Alex Lemann, and Greg Sandstrom. Butler Undergraduate Research Conference (URC). Spring, 2005.

Representing Multidimensional Trees. David Brown, Ian Kelly, Colin Kern, Alex Lemann, and Greg Sandstrom. Midstates Conference for Undergraduate Research in Computer Science and Mathematics (MCURSCM). Fall, 2004.

A CNF Transformation for Multidimensional Grammars. David Brown, Ian Kelly, Colin Kern, Alex Lemann, and Greg Sandstrom. Midstates Conference for Undergraduate Research in Computer Science and Mathematics (MCURSCM). Fall, 2004.

Travel and Posters

Attended SC07 Education Program. Reno, NV. Fall 2007.

SC07 Final Committee Meeting. Reno, NV. Fall 2007.

An Introduction to Computational Science & High Performace Computing. Alex Lemann. Lusher High School Science Club, New Orleans. Fall 2007.
`www.lusherschool.org`

LittleFe + BCCD + CSERD = Acme. Best Poster Award. International Summer School on Grid Computing(ISSGC). Summer 2007.

SC08 Committee Meeting. Austin, TX. Summer 2007.

Computational Science & High Performance Computing Workshop. Instructors: Charlie Peck, Paul Gray, Dave Joiner, Alex Lemann, Kristina Wanous. Lafayette College. Summer, 2007.

Computational Science (Focus on Computation Biology and Chemistry) & High Performance Computing Workshop. Instructors: Charlie Peck, Paul Gray, Dave Joiner, Alex Lemann, Kristina Wanous. University of Texas, El Paso. Summer, 2007.

Computational Science & High Performance Computing Workshop. Instructors: Charlie Peck, Tom Murphy, Alex Lemann, Kevin Hunter, Kristina Wanous, Camille Frazier. San Diego Super Computing Center. Spring, 2007.

LittleFe + BCCD + CSERD = Acme; Computational Science Education on the Move. Charlie Peck, Alex Lemann, Kevin Hunter, Paul Gray, Dave Joiner, and Tom Murphy. Technical Symposium on Computer Science Education (SIGSE 2007). Spring, 2007.

LittleFe + BCCD + CSERD = Acme; Computational Science Education on the Move. Charlie Peck, Alex Lemann, Kevin Hunter, Paul Gray, Dave Joiner, and Tom Murphy. Society for Industrial and Applied Mathematics Computational Science and Engineering (SIAM CSE07). Spring, 2007.

School Outreach: Joint Educational Facilities & Montgomery Blair High School. Washington, DC & Silver Spring, MD.

`http://www.jef.org` and `www.mbhs.edu`

NSF Funding Opportunities Meeting. Arlington VA. Fall 2006.

Attended SC06 Education Program. Tampa, FL. Fall 2006.

SC07 Education Program Planning Workshop. Argonne National Lab. Summer 2006.

Big-FE A Cost and Power Efficient Platform for High Performance Computing Education. Alex Lemann, Josh McCoy, Tobias McNulty, Charles Peck. Teragrid. Summer, 2006.

LittleFe The Low-cost Portable Cluster for Computational Science Education. Alex Lemann, Josh McCoy, Tobias McNulty, Charles Peck. Society for Industrial and Applied Mathematics Parallel Processing (SIAM PP06). Fall, 2006.

Folding@Clusters. Alex Lemann, Josh McCoy, Tobias McNulty, Charles Peck. Society for Industrial and Applied Mathematics Parallel Processing (SIAM PP06). Fall, 2006.

Committees

SC08 Education Program Planning Committee — Infrastructure

SC07 Education Program Planning Committee — Student Fellow