Gary Jackson

Curriculum Vitæ

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Education

Dec. 2014 **Doctor of Philosophy**, *The University of Maryland*, College Park.
Computer Science

1999 **Bachelor of Science**, *The University of Maryland*, College Park.
Computer Science

Dissertation

Title *Parallel Computing with P2P Desktop Grids*

Supervisors Professor Alan Sussman & Professor Pete Keleher

Description Distributed algorithms for parallel resource discovery and exploitation

Experience

2009–2013 **Graduate Research Assistant**, *University of Maryland*, College Park.

- Developed distributed algorithms for parallel computing resource management in decentralized grids.
- Found and fixed architectural problems with the Content Addressable Network.
- Prototyped a MapReduce architecture for GPU-equipped clusters using hypergraph partitioning to make choices about data movement.

2005–2008 **Programmer**, *University of Maryland*, College Park, Global Land Cover Facility.

- Developed a web interface for scientists to visually create training data for land cover classification with machine learning algorithms.
- Developed resource management middleware and a web interface for scientists to create and manage long-running land cover product generation tasks.

1999–2005 **Systems Administrator/Programmer**, *University of Maryland*, College Park, Institute for Advanced Computer Studies.

- Managed several HPC Linux clusters, two IBM SP2 systems, and other various hardware.
- Managed an IBM High Performance Storage System (HPSS) installation.
- Developed a prototype storage grid using the Globus Toolkit.
- Supervised and trained student workers.

Awards

2005 **Google Summer of Code** *Extended Type Inference System for Perl 5*

Publications

2014 Gary Jackson, Pete Keleher, and Alan Sussman, Decentralized scheduling and load balancing for parallel programs, In *Proceedings of the 2014 14th IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing*, May 2014.

1998 Sean Luke, Charles Hohn, Jonathan Farris, Gary Jackson, and James Hendler, Co-evolving soccer softbot team coordination with genetic programming, In *RoboCup-97: Robot Soccer World Cup I*, volume 1395 of *Lecture Notes in Computer Science*, pages 398–411. Springer Berlin Heidelberg, 1998.

Teaching Experience

2011, 2013, 2014 **Teaching Assistant**, *University of Maryland*, College Park.
High Performance Computing Bootcamp

Miscellaneous

2014 CCGrid 2014 Doctoral Symposium

Skills

Distributed Systems	Developed distributed algorithms from scratch, debugged and overhauled a flawed distributed system.
Programming Languages	Significant experience with C, C++, Java, and Perl. Exposure to other languages and paradigms, such as functional programming with OCaml.
High Performance Computing	Developed parallel programs using MPI and OpenMP. Taught others how to use these. Managed HPC resources as a Systems Administrator.
Relational Databases	Used PostgreSQL for several projects. Exposure to DB2 and Informix.
Dynamic Web	Java Server Faces, AJAX, JSON, Google Maps JavaScript API
Other Technologies	XML, including XSLT; Geospatial data