Geoffrey C. Hulette

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Research Interests

Domain-specific and embedded programming languages, multi-language programming, functional programming, program transformation, scientific and high-performance computing.

Education

Ph.D. in progress, Computer Science
University of Oregon
June, 2011 *(expected)*
Research advisor: Matthew Sottile
Committee chair: Allen D. Malony

M.S. Computer Science
University of California, San Diego
September, 2007
Master's Thesis: Predicting Fault Locations from Failures Using a Machine Learning Classifier, Committee Chair: Sorin Lerner. September, 2007.

B.S. Cum Laude, Computer Science
Tufts University
May, 2000

Experience

University of Oregon (Eugene, OR) **Sep 2007 to present**

Graduate Research Fellow. Designed and implemented a novel annotation language and associated transformation system called OnRamp for the Common Component Architecture (CCA) project, with the aim of migrating legacy scientific codes to a component-oriented architecture. The transformations are defined for C, Fortran, and a subset of C++. The implementation was written in OCaml and Python.

Graduate Research Fellow. J2EE programmer for NEMO, a neuroinformatics portal and web-services infrastructure facilitating collaboration between hospitals and neuro-imaging researchers.

Massachusetts Institute of Technology (Cambridge, MA) Jan 2004 to Sep 2005

Lead Software Engineer. Designed and implemented a J2EE-based web application providing MIT students and faculty access to shared high-performance computing clusters.

WorldTeach (Ombalantu, Namibia) Dec 2002 to Jan 2004

International Volunteer Teacher. Technology and mathematics instruction at a secondary school (grades 8 to 10) in rural Namibia.

Neomar, Inc. (San Francisco, CA) Jan 2001 to Nov 2002

Software Engineer. One of two programmers of a full-featured J2ME-based web browser, running on Blackberry devices. Responsibilities included custom graphics code and a network layer to optimize performance with a proprietary web proxy server. Also wrote server components enabling image processing, data compression, and intelligent caching.

Center for Connected Learning at Tufts (Somerville, MA) Sep 1999 to Dec 2000

Software Engineer. Programmer and design contributor for NetLogo, a Java simulation programming environment widely used in educational environments and academic research. Responsibilities included writing an agent-based parallel computation engine and a compiler for the NetLogo language.

Publications

Conference Papers

- M. J. Sottile, **G. C. Hulette**, and A. D. Malony. Workflow representation and runtime based on lazy functional streams. In WORKS 09: Proceedings of the 4th Workshop on Workflows in Support of Large-Scale Science, pages 110, New York, NY, USA, 2009. ACM.
- **G. C. Hulette**, M. J. Sottile, R. Armstrong, and B. Allan. OnRamp: enabling a new component-based development paradigm. In CBHPC 09: Proceedings of the 2009 Workshop on Component-Based High Performance Computing, pages 110, New York, NY, USA, 2009. ACM.
- **G. C. Hulette**, M. J. Sottile, and A. D. Malony. WOOL: A workflow programming language. IEEE International Conference on eScience, 0:7178, 2008.

Posters

- Geoff Hulette, Matthew Sottile, Benjamin Allan, Robert Armstrong. Using CCA and Onramp to Generate an Application-Specific Framework from a Monolithic Application. Poster, International Conference for High Performance Computing, Networking, Storage and Analysis (SC'08), November, 2008.

Professional Service

ACM member since 2006.