Chris Bunch

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Department of Computer Science

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Personal

Born on June 7, 1985.

United States Citizen.

Research Interests

My research interests include language support for emerging virtualization-based systems (e.g., cloud computing), with an emphasis on accessibility and ease-of-use for programmers with varying skill levels and backgrounds. As such, I am interested in how cloud computing platforms intersects with other domains such as scientific computing and high-performance computing. My other interests include contributing software artifacts that I develop to the open-source and research communities.

Education

Ph.D. Computer Science, University of California, Santa Barbara, in progress.

Grade Point Average: 3.53

Adviser: Chandra Krintz

B.S. Computer Science, California State University, Northridge, 2007.

Minor in Mathematics

Grade Point Average: 3.71

Employment

University of California, Santa Barbara

Research Assistant, 2008-Present. Notable work includes:

AppScale, an open source platform for Google App Engine applications. Hosts Python and Java applications in a scalable, fully configured environment.

Web Application State Machine (WASM), an automated verification tool to statically prove CTL formulas on PHP web applications with a dynamic component to enforce runtime invariants.

A multigrid algorithm adopted for use on the GPU in the CUDA programming language.

Teaching Assistant 2007-2008. Classes taught:

CS 162: Programming Languages, taught by Professor Chandra Krintz. **Awarded a Certificate of Excellence for assisting in this class.**

CS 185: Human-Computer Interaction, taught by Professor Tobias Höllerer.

Jet Propulsion Laboratory, Pasadena 2010.

Intern. Notable work includes:

A Ruby on Rails application that monitors image tiling jobs using Amazon SQS, Amazon SimpleDB, and memcached.

The development and implementation of hybrid cloud techniques, allowing users to run Google App Engine applications in multiple clouds concurrently.

Integration of Amazon SimpleDB support into AppScale.

California State University, Northridge 2007-2008.

Student Assistant. Notable work includes:

Joint research with the University of California, San Diego to automate and manage functional MRI (fMRI) data on subjects under study.

A Java election portlet to configure and manage school elections.

Management of campus services written in the O'Caml programming language.

Peer-Reviewed Conference & Workshop Publications

N. Chohan, C. Bunch, C. Krintz, and Y. Nomura, Database-Agnostic Transaction Support for Cloud Infrastructures *4th International Conference on Cloud Computing (CLOUD 2011)*, Jul 2011

C. Bunch, N. Chohan, C. Krintz, and K. Shams, Neptune: A Domain Specific Language for Deploying HPC Software on Cloud Platforms, *2nd Workshop on Scientific Cloud Computing (ACM ScienceCloud)*, Jun 2011 **(Best Paper Award)**

C. Bunch, J. Kupferman, and C. Krintz, Active Cloud DB: A RESTful Software-as-a-Service for Language Agnostic Access to Distributed Datastores, *International Conference on Cloud Computing (ICST CloudComp)*, Oct 2010

S. Hallé, T. Ettema, C. Bunch, and T. Bultan, Eliminating Navigation Errors in Web Applications via Model Checking and Runtime Enforcement of Navigation State Machines, *The 20th IEEE/ACM International Conference on Automated Software Engineering (IEEE/ACM ASE 2010)*, Sep 2010

C. Bunch, N. Chohan, C. Krintz, J. Chohan, J. Kupferman, P. Lakhina, Y. Li, and Y. Nomura, An Evaluation of Distributed Datastores Using the AppScale Cloud Platform, *The 3rd International Conference on Cloud Computing (IEEE CLOUD 2010)*, Jul 2010

N. Chohan, C. Bunch, S. Pang, C. Krintz, N. Mostafa, S. Soman, and R. Wolski, AppScale: Scalable and Open AppEngine Application Development and Deployment, *International Conference on Cloud Computing (ICST CloudComp)*, Oct 2009