caleb miles

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OVERVIEW

I am a graduate of Claremont McKenna College where I obtained a dual degree in Physics and Mathematics. It is my goal to work on exceptionally challenging computational problems in applied science. I am very excited by the advancements in the use of computers in the modeling of complex physical systems and am very interested in creating software that enables computational exploration of the physical world; and I am dedicated to the development of open source software because I believe that software, like ideas, are best when shared openly.

Technical Skills

- Languages: Ruby, Go, Python, C/C++, BASH
- Software: MATLAB, Mathematica, SAGE, FEniCS, OpenFOAM, COMSOL
- Linux Distributions: Ubuntu, Fedora, SUSE
- Version Control: Git, Mercurial

INDUSTRY EXPERIENCE

Pivotal Software, San Francisco CA

Software Engineer, September 2013 to present.
Developer of BOSH: an open source tool for orchestrating stable deployments of software to unstable cloud infrastructure. Worked all along the software deployment stack from Linux Kernel patching and virtual machine image creation to client server interactions between a Ruby CLI, a RESTful Ruby deployment director and a Go agent for the director which resides on virtutal machine images. Pivotal is a TDD pair programming shop where engineers tend to wear a lot of technical hats beyond simply shipping stories, such as regular rotations as front line open source community managers and production support engineers.

inktank, Los Angeles CA

Software Developer - October 2012 to April 2013.
Junior developer of the RADOS Gateway, a RESTful interface to a Ceph cluster supporting Amazon S3 and OpenStack Swift API calls.

- Exposed a RESTful API for user, bucket, and object management of the Rados Gateway.
- Supported Professional Services staff in customer assistance.
- Authored API specification documentation.
- Performed refactoring of existing CLI administration tools to support the creation of RESTful interface.
- Reviewed community submitted patches.
- Performed statistical analysis on proposed patches to the CRUSH algorithm using Numpy/SciPy.

inktank, Los Angeles CA

Development Intern - May 2012 to September 2012.
Performed experimental algorithm analysis. Developed software in response to feature requests and bug reports in collaboration with lead developers.

- Implemented portions of the S3 API for the RADOS gateway.
- Created new functionality in the RADOS gateway administrator program.
- Performed statistical analysis of the CRUSH algorithm using R and NumPy/SciPy.
- Amended man pages and unit tests to document new functionality.

RESEARCH EXPERIENCE

University of Hawai'i, Honolulu HI

Undergraduate Intern - Summer of 2011.
Participated in a NSF funded Research Experience for Undergraduates in Computational Fluid Dynamics under principal investigator Dr. Marcelo Kobayashi.

- Modified standard OpenFOAM solvers for use in non-inertial reference frames.
- Performed verification and validation studies of modified work.

University of New Mexico, Albuquerque NM

Undergraduate Researcher - Summer of 2010.
Participated in a NSF funded Research Experience for Undergraduates in computational quantum chemistry under principal investigator Dr. Hua Guo.

- Utilized the open source Atomic Simulation Environment to create Python scripts to drive simulations.
- Created Python scripts for data reduction and chart generation during live simulations.

Education

Bachelor of Arts in Physics and Mathematics from Claremont McKenna College. Sequence (minor) in Scientific Modeling. Graduated in 2012.