James Pfeiffer – Résumé

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Mathematician looking to make a career change into software development due to love of programming, algorithms, and product development.

Experience

University of Washington Seattle, WA
Research Assistant *March 2012 to Present*
Instructor *June 2011 to March 2012*
Teaching Assistant *September 2009 to June 2011*

- Performed mathematical research. Developed and tested conjectures. Wrote computer simulations to gather data. Wrote and published papers and gave seminar talks on results. Main organizer of optimization seminar.
- Taught differential equations and linear algebra college classes. Designed and gave lectures, homework, and exams.
- Led classroom discussion sections for college calculus classes. Graded homework and exams. Held office hours.

Future Advisor Seattle, WA
Software Developer, Intern *March 2012 to May 2012*

- Implemented a portfolio optimization component using an interface to an open-source optimization package. Wrote test cases and checked expected behavior. Solved issues in converting optimization package output to usable data.

University of Washington Robinson Center Seattle, WA
Instructor *July 2010 to August 2010*
Center for Talented Youth Santa Cruz, California
Teaching Assistant *Summers 2006, 2007, and 2009*
University of California, Davis Davis, California
Research Assistant *Summers 2007 and 2008*

Programming Projects

github.com/jamesrp/portfolio

Google App Engine
Created an email reminder program to allow users to set reminders to be sent to them in the future.
Wrote a Magic: The Gathering website to create sealed deck pools and drafts for tournament practice.

Lua
Created several games with the Love2D game framework.

Python
Mathematical research code using packages including SAGE, numpy, matplotlib, scipy, sympy.
Implemented natural langauge processing routines for Coursera class.
Implemented simulated annealing for mathematical research simulations.

Computer Languages and Software

Python, Lisp, C, git, Linux server and desktop, MATLAB, mathematical and numerical packages

Education

University of Washington – *PhD, Mathematics* *September 2009 to December 2013*
Advisor: Rekha Thomas
Thesis: Combinatorial Optimization and Sums of Squares

University of California, Davis – *BS, Mathematics* *September 2005 to June 2009*
GPA: 3.93

Publications

A Semidefinite Approach to the K_i Cover Problem *J. Gouveia and J. Pfeiffer*
Submitted to *Operations Research Letters*, 2012

Bootstrap Percolation on the Hamming Torus *J. Gravner, C. Hoffman, J. Pfeiffer, and D. Sivakoff*
Submitted to *Annals of Applied Probability*, 2012