Matthew William Jibson

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Areas of interest

Digital synthesis of pipe organs and pianos. I have written a paper on a method to synthesize pipe organs, referenced below. This research still has open problems.

Work Experience

March 2012-present — **Stack Exchange, Inc.**
Member of Technical Staff, *Software Developer*
Implemented features for the Careers 2.0 website.

June 2011-March 2012 — **Seagate Technology**
Senior Engineer, *Firmware Organization*
Developed custom tools and infrastructure support in mostly Python and SQL.

2000-present — **US Geological Survey**
Consultant
Developed Java programs for seismic landslide analysis.

June 2007-May 2009 — **Innovative Advertising**
Primary Developer
Designed and created an online system for local ad distribution.

May 2008-Dec. 2008 — **Seagate Technology**
Intern, *Firmware Organization*
Replaced a failing, 3rd-party, business-critical application with a custom tool.

June 2006-May 2007 — **Apictura, LLC**
Intern
Wrote with JSP and Java EE servlets, networking services, servers, and other programming tasks.

May 2005-Jan. 2006 — **SpectraLink**
Intern
Wrote Wireshark dissectors in C for proprietary wireless protocols.

May 2004-Aug. 2004 — **IBM**
Intern
Created a Java tool to improve productivity of the printer analysis team.

Education

2009 — **M.S., Electrical Engineering**
Colorado State University, 3.2 GPA.
ADVISOR: Tom Chen.

2007 — **B.S., Computer Engineering**
Colorado State University, 3.3 GPA.

2007 **B.M., Piano Performance**
Colorado State University, 3.3 GPA.

Awards

2007 Second place in the Colorado State University Senior Design E-days Awards in Electrical Engineering. A dual electronic and pipe organ was built with an FPGA, custom windchest, and donated pipes and keyboard.

2006 Wendel Diebel Award from the Colorado State University Music Department for outstanding musicianship.

Software Development

2011-present go-dsp
Digital signal processing library for the Go programming language (primary developer).

2000-present SLAMMER
Programs for seismic landslide analysis in Java (primary developer).

2011 Journalr
A website for online, modern journaling in Python and Google App Engine (founder and developer).

2009-2010 Mission Office
A system and website for management, automated statistics, and office work of a medium-sized, distributed organization in Python and Google App Engine (creator and developer).

2007-2009 Biosensor
Analysis and graphing system for results of potentiostat expirements in Django (creator and developer).

2002-2008 Crescent Island
A multiplayer, online game in PHP and MySQL/PostgreSQL (principal developer).

OpenBSD ports
Submitted and had committed various ports to OpenBSD and FreeBSD.

Publications

Theses

Jibson, M.W., 2009, Electrochemical Biosensor Array Characterization, *M.S. Thesis in Electrical Engineering*, Colorado State University.

Jibson, M.W., 2007, Organ Sound Synthesis by Harmonic Interpolation, *Senior Design Thesis*, Colorado State University. [PDF]

Software

Jibson, R.W., Rathje, E.M., **Jibson, M.W.**, and Lee, Y.W., in press, SLAMMER—Seismic LAndslide Movement Modeled using Earthquake Records, *U.S. Geological Survey Techniques and Methods*, on CD-ROM and Internet.

Jibson, R.W., and **Jibson, M.W.**, 2003, Java programs for using Newmark's method and simplified decoupled analysis to model slope performance during earthquakes, *U.S. Geological Survey Open-File Report 03-005*, on CD-ROM and Internet.

Jibson, R.W., and **Jibson, M.W.**, 2002, Java programs for using Newmark's method to model slope performance during earthquakes, *U.S. Geological Survey Open-File Report 02-201*, on CD-ROM.

Jibson, R.W., and **Jibson, M.W.**, 2001, Programs for using Newmark's method to model slope performance during earthquakes, *U.S. Geological Survey Open-File Report 01-116*, on CD-ROM.