

# 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.

## Education

- 2009     **M.S., Electrical Engineering**  
          *Colorado State University*  
          ADVISOR: Tom Chen.
- 2007     **B.S., Computer Engineering**  
          *Colorado State University.*
- 2007     **B.M., Piano Performance**  
          *Colorado State University.*

## Work Experience

- June 2011-  
present     **Seagate Technology**  
              Sr. 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.

## 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

- 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 experiments in Django* (creator and developer).
- 2002-2008 [Crescent Island](#)  
*A multiplayer, online game in PHP and MySQL/PostgreSQL* (principal developer).

## Publications

### THESES

**Jibson, M.W.**, *Electrochemical Biosensor Array Characterization*, M.S. Thesis in Electrical Engineering, Colorado State University, May 2007.

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

### 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.

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<http://mattjibson.com/cv.pdf>