

GRAHAM C. GRINDLAY

grindlay@gmail.com

EDUCATION

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| M.S. Media Arts and Sciences
Massachusetts Institute of Technology, Cambridge, MA | 2007 |
| M.S. Computer Science
University of California, Santa Cruz, CA | 2004 |
| B.A. Computer Science
Oberlin College, Oberlin, OH | 2000 |

RESEARCH INTERESTS

- Statistical models of audio and music
- Machine learning/artificial intelligence
- Acoustics

PUBLICATIONS

Grindlay, G., "Haptic Guidance Benefits Musical Motor Learning", *Symposium on Haptic Interfaces. IEEE Virtual Reality*, 2008.

Grindlay, G., "The Impact of Haptic Guidance on Musical Motor Learning", Master's Thesis, Media Laboratory, Massachusetts Institute of Technology, 2007.

Grindlay, G. and Vasilescu, M., "A Multilinear (Tensor) Framework for HRTF Analysis and Synthesis", *IEEE International Conference on Acoustics, Speech, and Signal Processing*, 2007.

Grindlay, G. and Helmbold, D. "Modeling, Analyzing, and Synthesizing Expressive Piano Performance with Graphical Models", *Machine Learning* 65 (2-3), pp. 361-387, 2006.

Grindlay, G., "Modeling Expressive Musical Performance with Hidden Markov Models", Master's Thesis, Dept. of Computer Science, U.C. Santa Cruz, 2005.

Grindlay, G., "Modeling Expressive Musical Performance with HMMs", Musical Information Processing Systems Workshop. *Neural Information Processing Systems (NIPS 2004)*, Whistler, Canada, 2004.

Grindlay, G., "Statistical Models of Expressive Musical Performance", *Workshop in Algorithmic Computer Music (WACM 2004)*, Santa Cruz, CA, 2004.

ACADEMIC EXPERIENCE

Research Assistant

Fall 2005-Summer 2007

Massachusetts Institute of Technology, Cambridge, MA

- Conducted research on audio and music applications of machine learning
- Worked extensively on the design of motion control hardware and software
- Designed, conducted, and analyzed a human motor learning experiment

Teaching Assistant

Fall 2002-Spring 2004

University of California, Santa Cruz, CA

- Taught lower and upper-division undergraduate computer science labs including: Introduction to Programming, Data Structures, and Artificial Intelligence
- Graded exams/homework and wrote student evaluations

PROFESSIONAL EXPERIENCE

Science Engineer

2007-Present

Matchmine.com, Needham, MA

- Working as part of the core science team to develop Matchine's user preference modeling technology.
- Primary duties include algorithmic development and prototyping.
- Responsible for working with engineering teams to ensure that new algorithms are implemented efficiently and properly.

Sponsored Research Staff

2004

McGovern Institute for Brain Research/MIT (Moore Lab), Cambridge, MA

- Developed software for studying various aspects of tactile perception.
- Developed electro physiology analysis tools in MATLAB.
- Developed analysis tools for optical imaging data.
- Responsible for maintaining lab computing facilities.

Software Engineer

2001

ImaginEngine Corp., San Francisco, CA

Was responsible for engineering in several projects, including:

- Three educational CD-ROM titles: *Arthur's Kindergarten*, *Arthur's First Grade*, and *Arthur's Second Grade*
- A web-based storyboarding application
- A title for the *LeapPad* electronic book platform
- *PerfectPasser*, an online football game for Pogo.com (as a 3rd party contractor, 2002)

Software Engineer

2000

On2 Corporation, Eight Cylinders Division, San Francisco, CA

- Responsible for work on the Python-based scripting API for the Eight Cylinder Engine, a web browser plug-in allowing for high quality 3D graphics and sound over the internet
- Worked on converting portions of the code base, including the math engine, physics engine, as well as sound and video rendering components, to the COM object model
- Worked extensively on the Python to C++ shadow class interface

PROFESSIONAL ACTIVITIES & SERVICE

- IEEE Student Member
- ICMC Reviewer
- Haptics Symposium Reviewer