REBECCA REICH rreich@alum.mit.edu

EDUCATION

Massachusetts Institute of Technology — Cambridge, MA 2000-2002
Media Laboratory — S.M. Media Arts and Sciences
Music, Mind and Machine group — CGPA 5.0/5.0
Thesis: Musical Instrument Identification Through a Simulated Cochlear Implant Processing System (Advisor: Dr. Barry Vercoe)

McGill University — Montreal, QC, Canada 1996-2000
B.Eng. Electrical, Minor in Arts (Music)
CGPA 3.53/4.0

CAREER EXPERIENCE

Analog Devices, Inc. — Wilmington, MA and Roskilde, DK

2002-present *Product Development Engineer / Software Systems Engineer*

• Developed algorithms for audio-specific digital signal processor (SigmaDSP) and ported third-party algorithms using proprietary assembly language.
• Created software modules in C# for SigmaStudio, a graphical programming tool for SigmaDSP integrated circuits (ICs).
• Managed software database using version control (Microsoft Source Safe).
• Managed team of consultants in India for software development and documentation.
• Gave training courses worldwide on proprietary DSP coding techniques.
• Ran Verilog simulations for hardware development.
• Performed bench evaluation of ICs using Audio Precision test setup in lab environment.
• Assisted customers with audio algorithms for product development.
• Promoted SigmaDSP products (AD1953, AD1940, ADAU1701) at numerous trade shows and customer visits across USA, Europe, Asia

2000-2002 **Massachusetts Institute of Technology** — Cambridge, MA
Research Assistant — *Music, Mind and Machine group*

• Implemented MATLAB simulation of signal processing of cochlear implant
• Designed, set up and ran automated experiments with test subjects to evaluate musical instrument integrity through cochlear implant simulation
• Other projects included synesthesia music/video demonstration, automatic drum circle generation.

Summers 1997-1999 **National Research Council of Canada (NRC)** — Ottawa, ON, Canada
Research Assistant — *Institute for Research in Construction*

• Quantified subjective evaluation of acoustic spatial impression of music in concert halls, using an electroacoustic system in an anechoic chamber.
• Quantified subjective evaluation of speech intelligibility in classrooms.
• Methods included computer room simulation and ray-tracing with ODEON, use of audio equipment in setting up sound fields.

Research Assistant *Institute for Microstructural Sciences*

• Developed software in C for automated steering of a video camera, for use in noise reduction for videoconferencing applications.
• Created randomized subjective tests using MATLAB and refined webpages using HTML.

PUBLICATIONS *please see http://www.media.mit.edu/~rreich/pubs.html for a complete list.*

AWARDS & HONOURS

- *Fonds pour la Formation de Chercheurs et l'Aide à la Recherche* (FCAR)–Government of Quebec Master's research scholarship (B1) for the pursuit of post-graduate education.
- *Canadian Acoustical Association*–Director's Award for Best Student Publication (1998)
- *McGill Conservatory of Music*–Second prize, Concerto Competition, advanced level (piano)
- *National Research Council Women in Engineering and Science Internship*–One of 25 nation-wide recipients of a three-year scholarship

COMPUTER SKILLS

- C#, C/C++, AWK, MATLAB, Verilog, VHDL, Simulink, HTML, PERL, CSound, Max/MSP, Altera MaxPlusII, SPW, ODEON, LogicWorks, SPICE, Electric (CAD), Pascal
- lab – Audio Precision, oscilloscope, basic sauldering skills

PROFESSIONAL TRAINING

- Digital Circuit Lab, Harvard University
- Introduction to Audiology, Northeastern University
- Presentation Skills Workshop, Analog Devices Inc

OTHER INTERESTS

- Discharge Volunteer, Massachusetts General Hospital (Fall 2006)
- Music Director, *Techiya* (MIT a capella choir);- Classically trained pianist, 22 years experience; extensive music theory background; Co-founder and conductor of Marianopolis Symphony Orchestra (Montreal, Quebec)
- Extensive travel, work experience abroad: USA, Canada, Europe, Japan, Korea, India, Israel. Fluent in English and French.
- Canadian Citizen, US Permanent Resident