

ETHAN BORDEAUX

210 Belmont St. Apt 14
Watertown, MA 02472

617.926.8355
ethan@dspmusic.org

WORK EXPERIENCE

DSP Software Engineer

Analog Devices

Wilmington, MA. www.analog.com, July 2000 to Present

Functioning as a DSP Software Engineer focusing on GSM cellular handsets. Primary duties involve writing DSP algorithms in C and assembly language for the ADSP-218x and Blackfin series of Digital Signal Processors. Algorithms which are developed, debugged, and enhanced include Speech Codecs (AMR), Channel Codecs, Real-Time Operating Systems, and various audio processing functions. Significant time is also spent writing PC applications to assist in the design and test of DSP algorithms. Additional time is spent supporting customers in the integration of these algorithms into their applications, along with working with silicon designers in debugging early revisions of our chipsets.

DSP Applications Engineer

Analog Devices

Norwood, MA. www.analog.com, June 1997 to July 2000

Provided phone and email support to customers developing DSP applications. Support was provided on our hardware, software, and development tools for both our 16-bit and 32-bit DSPs. Wrote application notes and data sheets for publication on the Analog Devices web site along with technical articles for trade magazines. Traveled to customer sites with Marketing and Sales Engineers to give technical presentations, and to trade shows to speak with potential customers and present technical papers. Provided internal training to sales engineers.

SKILLS

C and assembly language programming for Analog Devices DSPs, with particular emphasis on 16-bit processors. Experience with Perl, Matlab, and HTML. Makefiles. PVCS Version Control Software. Hardware debug equipment including oscilloscopes and logic analyzers. Technical writing and presentations.

EDUCATION

Tufts University, www.tufts.edu, Medford MA, 1993-1997.

Bachelor of Science in Electrical Engineering, Minor in Mathematics (Graduated May 1997); GPA 3.0. Course Work included Digital Signal Processing (two classes plus Senior Project), Communication System Design, Digital Design, Analog Electronics, Data Structures, Discrete Math, Linear Algebra, Probability and Stochastic Processes.

College Work Experience

- **Lab Assistant - Electrical Engineering Department**, September 1996 - May 1997
- **Grader - Calculus III**, September 1996 - May 1997
- **Student Supervisor - Dining Services**, January 1996 - May 1997

NON-WORK EXPERIENCE

Starting in December 2000 I have spent considerable time and effort in developing an environment for creating electronic music using Analog Devices DSPs. This has involved writing assembly language algorithms for sound generation and song structure/control. I am in the process of releasing a free software development kit such that others can write music in the same fashion. I have also performed my music in clubs, bars, and galleries in the Boston area.

Additionally, in conjunction with the MIT Media Lab, I am working with three artist/engineers on collaborative projects. We won 3rd place at Vida 6.0 (see www.fundacion.telefonica.com/at/vida/paginas/v6/emusic.html), an international art competition, and our work is ongoing. For more information on this project, please visit www.dsperado.com/chiclet.

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PUBLISHED ARTICLES AND BOOK CHAPTERS

“Implementation of a Modern Adaptive Multirate (AMR) Codec for Cellular Systems Using a Multicore DSP”
Essentials of Moderns Telecommunications Systems: Chapter 10, May 2004, Artech House Publishers

“Advanced DSP Performance Complicates Memory Architectures In Wireless Designs”
Wireless Systems Design, April 2000 pg20-24, www.wsdmag.com

“DSP System Integration” (cover story)
Communications System Design, December 1999 pg23-28, www.csdmag.com

“Choosing A DSP For Low Power Designs”
Electronic Products, April 1999 pg59-60, www.electronicproducts.com

“Integrating Flash Memory In An Embedded Design” (co-authored with Stefan Hacker)
Circuit Cellar, April 1999 pg12-19, www.circuitcellar.com

“Singling Out A DSP For Low Power Designs” (cover story)
Electronics Engineer Asian Sources, March 1999 pg28-29, www.ee.asiansources.com

“Designing Low Voltage Systems” (co-authored with Jaspreet Singh)
Multimedia Systems Design, October 1998 pg46-51, www.msdmag.com

“Designers Face New Issues As Low-Voltage Levels Decline” (co-authored with Jaspreet Singh)
Wireless Systems Design, June 1998 pg32-36, www.wsdmag.com

CONFERENCE PRESENTATIONS

“The Importance Of DSP System Integration For Portable And Power Sensitive Applications”
PCS Design Conference, September 1999

“Designing Low Voltage Systems” (co-authored/co-presented with Jaspreet Singh)
DSP World Design Conference, April 21-23 1998