

ETHAN BORDEAUX

530 South Hewitt St Apt 324, Los Angeles CA, 90013

ethan.bordeaux@gmail.com

617.412.5597

WORK EXPERIENCE

Embedded Systems Software Engineer

Calabasas, CA. www.line6.com

Line 6

June 2010 to Present

Functioning as an Embedded Systems Software Engineer. Primary duties include:

- Developing firmware in C and assembly for multiple hardware devices including effects pedals and audio/MIDI interfaces for iOS and Windows/Mac hardware.
- Writing and interfacing to low level drivers for peripherals such as USB, I2C, and LCDs for NXP ARM7 and Cortex M3 microcontrollers.
- Experience working with Apple's Made for iPhone (MFi) developer constraints including writing firmware to handle identification, authentication, and Apples' strict low power requirements.
- Working closely with all aspects of product creation and design to define features and determine trade-offs in user experience and development time/product cost.

DSP Software Engineer

Woburn and Wilmington, MA. www.mediatek.com and www.analog.com

Analog Devices/Mediatek

July 2000 to June 2010

Functioned as a DSP Software Systems Engineer. Primary duties included:

- Supporting the development of internal C/C++ compiler tools through benchmarking, run-time library development, and tool chain debug.
- Developing, debugging, and enhancing DSP algorithms in C and assembly language for the ADSP-218x series of Digital Signal Processors and ARM microcontrollers. Past algorithms include Audio Codecs, Speech Codecs, Channel Codecs, Real-Time Operating Systems, and low latency Debugging Frameworks.
- Writing PC console applications in C and Perl to support software development.
- Long-term travel to customer sites to integrate algorithms and train customers.
- Working with silicon designers in debugging early revisions of our baseband processors.
- Project Management of hardware tools used to debug our chipsets in a wireless application.

DSP Applications Engineer

Norwood, MA. www.analog.com

Analog Devices

June 1997 to July 2000

Functioned as a DSP Applications Engineer supporting our full catalog of DSPs. Primary tasks included:

- Providing phone and email support on Analog Devices DSPs.
- Writing application notes, datasheets, and articles for publication in industry trade magazines.
- Traveling to customer sites and tradeshows to present the technical merits of our DSPs.

SKILLS

Languages. C (PC and DSPs/embedded processors), ADSP-218x Assembly Language, and Perl. Experience with C++, ARM7, ARM9, and Cortex M3 Assembly Language, 6502 Assembly Language, Java/J2ME, Python, XML, and Matlab M-files.

Build/Revision Control. Makefiles, PVCS, Perforce, SVN and CVS.

Hardware Debug. Oscilloscopes and Multimeters. Experience with Logic Analyzers.

Communication. Strong Technical Writing and Presentation skills. Experience with Project Management.

EDUCATION

Tufts University, Medford MA. www.tufts.edu

September 1993 to May 1997

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

ETHAN BORDEAUX

530 South Hewitt St Apt 324, Los Angeles CA, 90013

ethan.bordeaux@gmail.com

617.412.5597

NON-WORK EXPERIENCE

Independent of my employment, I founded and developed two personal projects relevant to my overall experience and capability as a Software Engineer.

PSPSeq, www.dspmusic.org/psp

December 2005 to Jan 2009

- Developed a synthesis and sequencing application for writing music on the Sony PSP game system.
- Designed and programmed the entire application including software architecture, synthesizer and sequencer design, algorithmic and low-level optimizations, user interface and aesthetic, and documentation.
- Downloaded over 10000 times and actively used by musicians to create and perform their own music.

SynDevKit and Chiclet, www.dspmusic.org/chiclet.html

January 2001 to December 2004

- Developed a custom audio synthesis and music compositional environment for ADSP-218x DSPs using assembly language and Perl (SynDevKit).
- Recruited by and worked with the MIT Media Lab to create a custom ADSP-218x hardware platform (Chiclet).
- Placed in art competitions (Vidallife 6.0), participated in local art festivals (Boston Cyberarts), and performed using this platform at music and art venues throughout Boston and New York City.

PUBLISHED ARTICLES AND BOOK CONTRIBUTIONS

- "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
- "Solving AMR Speech Codec Porting Challenges" *Communications Systems Design*, August 2004, www.commsdesign.com
- "Advanced DSP Performance Complicates Memory Architectures In Wireless Designs" *Wireless Systems Design*, April 2000 pages 20-24, www.wsdmag.com
- "DSP System Integration" (cover story) *Communications System Design*, December 1999 pages 23-28, www.commsdesign.com
- "Choosing A DSP For Low Power Designs" *Electronic Products*, April 1999 pages 59-60, www.electronicproducts.com
- "Integrating Flash Memory In An Embedded Design" (co-authored with Stefan Hacker) *Circuit Cellar*, April 1999 pages 12-19, www.circuitcellar.com
- "Singling Out A DSP For Low Power Designs" (cover story) *Electronics Engineer Asian Sources*, March 1999 pages 28-29, www.eetasia.com
- "Designing Low Voltage Systems" (co-authored with Jaspreet Singh) *Multimedia Systems Design*, October 1998 pages 46-51, (*magazine out of print*)
- "Designers Face New Issues As Low-Voltage Levels Decline" (co-authored with Jaspreet Singh) *Wireless Systems Design*, June 1998 pages 32-36, www.wsdmag.com

CONFERENCE PRESENTATIONS

- "The High Speed Logger: A Window into a Real-Time System" *Analog Devices General Technical Conference*, May 2007
- "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