

JEFFREY ERBRECHT

3A Electrical Engineering

<http://jeff.erbrecht.ca/>

jberbrec@engmail.uwaterloo.ca

SKILLS SUMMARY

- Strong aptitude for, and interest in, digital hardware design
- Strong knowledge of fundamental programming concepts and their application in C#, C++, VB.NET/VB6, ARM/THUMB assembly, Java, HTML and PHP, developed through 9 years of self study
- Proficient with Microsoft Windows and the Microsoft Office software suite
- Thorough workplace experience with oscilloscopes, logic analyzers, hardware debugging and software debugging
- Proficient in surface-mount soldering
- 12 months of job exposure to video post-processing systems

WORK EXPERIENCE

Hardware Intern, NVIDIA Corporation, Santa Clara, CA, May - Aug 2011

- *Current position*

ASIC Systems Validation Engineer, IDT Corporation, Toronto, ON, Sept - Dec 2010

- Debugged critical customer hardware issues from a systems standpoint
- Validated performance parameters of a DDR3 memory system
- Performed many lab routines, including use of oscilloscopes and hardware modification equipment
- Prepared a hardware demo for the 2011 Consumer Electronics Show (CES)
- Gained experience in a higher level of project development and management

ASIC Systems Engineer, IDT Corporation, Toronto, ON, Jan - Apr 2010

- Designed and brought up a complex video processing system for a top-tier electronics corporation
- Designed a system for extracting raw video from HDMI 1.4 signals
- Learned and participated in the professional practice behind the design and manufacture of circuit boards
- Maintained regular correspondence with external contractors
- Participated in the bring-up of a new top-of-the-line video processing chip
- Performed surface-mount hardware modifications on a regular basis
- Wrote software frontends to improve productivity

ASIC Systems Validation Engineer, IDT Corporation, Toronto, ON, May - Aug 2009

- Completed a significant portion of validation for a top-of-the-line video processing chip

- Performed temperature-controlled tests; made several hardware modifications for testing purposes; used oscilloscopes and logic analyzers for hardware validation and debugging
- Met with team members and directors on a weekly basis to report on progress
- Kept track of several chip revisions and dozens of chip samples
- Maintained deployable software kits for customers on a regular basis

Data Consolidator, The *MOTHER 3* Handbook, Fangamer LLC, March 2009

<http://handbook.fangamer.com/>

- Worked with a team of many talented people over the Internet to produce and sell a handbook/guide for the game *MOTHER 3*
- Systematically retrieved useful information from the game's binary data
- Wrote scripts in C# to dump the data and parse it into a format useful to the handbook's designers and writers
- Various data included enemy statistics, shops and item prices, maps, and much more

Lead Localization Developer, The *MOTHER 3* Fan Translation Project, July 2007 - present

<http://mother3.fobby.net/>

- Co-developed a fan-based translation project for a Japanese Gameboy Advance video game with a massive English-speaking following in the tens of thousands, *MOTHER 3*
- Reverse-engineered and reprogrammed parts of the game's code to accommodate a full English translation without using the original source code as a reference
- Used a professional real-time software emulator/debugger for analyzing compiled code in ARM/THUMB assembly
- Currently managing and maintaining source code in response to bug reports post-release
- Project received widespread coverage from respected industry news sources pre- and post-release, including Joystiq, Kotaku, and Destructoid

EDUCATION

Candidate for Bachelor of Applied Science, Honours Electrical Engineering, Co-op Program, University of Waterloo, Sept 2008 - present

INTERESTS AND HOBBIES

- Interested in the field of electrical hardware, particularly digital systems
- Interested in low-level programming using assembly language
- Enjoys astronomy and playing video games