SHANE AVERY

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Education

California State University Northridge, Northridge
Master of Science in **Electrical Engineering**, August 2007

San Jose State University, San Jose
Master of Science in **Computer Engineering** (transferred to CSUN), June 2002-June 2003

California Polytechnic State University, San Luis Obispo
Bachelor of Science in **Computer Engineering**, June 2001
Minor: Math

Experience

Avery Digital (averydigital.com), Ridgecrest, CA 3/09 to present
CEO, Chief Engineer
- My first company which focuses on the design and development of embedded computers.
- First product was the Hydra EtherX Ethernet daughter card for the Hydra game system. Designed and developed from start to finish. Included schematics, layout, driver code, code examples, and documentation.
- Collaboration projects in place with Nurve Networks LLC.

Navair, China Lake, CA 6/03 to present
Computer Engineer
- Designed test hardware for the Spike image guided missile. Required the use of schematic and layout software to create PCBs (Eagle). Once PCBs created then the code was written for the Programmable Logic Devices (Altera FPGAs or CPLDs) and microcontrollers (PICs). The boards have included Compact Flash interfaces, SD cards, Fiber Optic links, Digital Camera interfaces, Memory interfaces (flash, FIFOs, Dual Port SRAMs, SDRAMs, MRAMs), LCDs, Audio, Ethernet, USB, and serial interfaces to PC.

Logic-Plus, San Luis Obispo, CA 1/02 to 6/02
FPGA designer
- Designed an FPGA for a digital camera in Verilog. FPGA was a Spartan II (150,000 gate part) and was developed using Webpack (synthesis tool was XST).

Intel (formerly Ziatech), San Luis Obispo, CA 6/00 to 12/01
Hardware Engineer
- Wrote C++ code to verify the functionality of hardware on CompactPCI single board computers.
- Designed a rear panel I/O card (Fibre Channel) for a CompactPCI system.

Electronic Warfare Association, Ridgecrest, CA 6/99 to 9/99
Engineering Assistant Internship
- Assisted head engineer in developing a new technology in the realm of countermeasures by modeling EM waves using computer software (MathCAD).

Publications

Programming and Customizing the Multicore Propeller Microcontroller: The Official Guide
ISBN 978-0-07-166450-9
- Co-authored with a team from Parallax. My chapter focused on the use of the EtherX daughter card and network applications.

Other Projects

Cooperative Robotics, 2007 (http://shaneavery.com/Projects/GradProj) - My grad project at CSUN was an implementation of cooperative robotics in which four robots needed to complete a task cooperatively. Robots were built from scratch and programmed. The controller boards were custom and made using Eagle. This project also required a GUI application written in C++ using Borland Builder.

Lotus Video Game System, 2007 (http://shaneavery.com/Projects/Lotus) - Lotus is a simple video game system designed around a 68HC12 microcontroller. The point was to rapid prototype a complete system for a school project. Lotus' video card was an ezVGA serial module. Audio was generated using the SoundGin sound ship. The controllers were hacked NES controllers.

Arbadell Computer Design Project, 2001-2002 (http://shaneavery.com/Projects/Arbadell) - Arbadell is a single board computer designed entirely from scratch. Designed the CPU and plan to implement it on a Xilinx FPGA using Xilinx Webpack. The chipset will be a PIC microcontroller written in assembly. Arbadell supports a PS2 keyboard, VGA monitor, and serial in/out. Assembler for Arbadell was written in C. Simulator was written in Java using swing. Schematic and layout was done using Eagle.

Roborodentia 2000, 2001 - Robot competition held by Cal Poly every spring. Robot must traverse a maze and pick up racquetballs. Design includes the sensing of environment using IR emitter detector pairs, pulsing of DC motors, and the control of servo motors. Used a 68HC11 in 2000 and a PIC in 2001. All programs were written in assembly.