

- Assisted students with finite state machine design and pipelining
- Graded programming assignments

Southern Methodist University, Dallas TX

January 2013-Present

Teaching Assistant in Microprocessor Architecture and Interfacing

- Wrote interfacing labs based on the ARM7 and Cortex Microcontrollers
- Introduced students to assembly and C programming for embedded systems
- Graded Verilog programming assignments

Southern Methodist University, Dallas TX

August 2012-Present

Teaching Assistant in Digital Logic Design

- Provided students with instructions and guidance for digital logic design
- Developed lab experiments for combinational and sequential logic
- Graded digital logic design and Verilog programming labs

NXP Semiconductors, Austin TX

May 2012-August 2012

Software Developer

- Application development for the wafer manufacturing facility
- Development of a dashboard application using the Grails framework
- Professional experience using the DHTMLX JavaScript library

Wirevibe, Irving TX

January 2011-October 2011

Web Developer

- Professional experience in PHP, MySQL, JavaScript, AJAX and CSS
- Development and maintenance of corporate websites
- MySQL database structure design
- CSS programming for website visual enhancements

Magellan Integration, Evansville IN

August 2008-May 2010

Computer Engineer Level 1

- Tested low-voltage equipment before delivery to customers
- Designed and documented security/surveillance systems and low-voltage projects
- Installed wireless routers on mobile security trailers
- Installed DVRs, cameras and motion detectors for customers
- Monitored and maintained the company VLANs
- Configured testing lab facilities and maintained Windows & UNIX servers

Nanorobotics Laboratory, Polytechnique of Montreal Canada

May 2007-July 2007

Laboratory Research Assistant

- Examined and measured the resonance frequency of magneto elastic samples for medical use
- Implemented a VI (Virtual Instrument) under LabVIEW to record the frequency of Terfenol-D samples
- Assembled a circuit according to the project specifications to measure the resonance of Terfenol-D samples
- Documented experiments and submitted measurements for analysis

PROJECTS

▪ Area: VLSI & Digital System Design

Title: Finite state machine (Matrix multiplier) on Altera FPGA
Datapath and Controller design in Verilog
Timing analysis for performance

Title: 8-bit RISC CPU design in CADENCE

Designed a block diagram of the CPU architecture including registers, memory, ALU, and control unit.
Performed CPU layout simulation in CADENCE
Performed LVS and DRC testing on the CPU in CADENCE
Submitted layout for fabrication in a 0.6 micron CMOS process

▪ Area: Computer Architecture

Title: Design of 5-stage pipeline processor in VHDL using Altera Modelsim (team project)
Wrote a custom instruction set architecture for the processor
Wrote test programs to test the behavior and hazards of the processor
Calculated the execution time of the pipeline and processor MIPS rate

▪ Area: Wireless Sensor Network & Embedded Systems

Title: Teleoperating Home Devices using TinyOS
Designed a remote gate opener using TelosB/Tmote Sky motes and a servomotor
Wrote an application in nesC for the wireless communication between the basestation and motes.
Built the hardware setup and wired the servomotor to the mote external pins.

▪ Area: iPhone OS Application Development

Title: Sudoku for the iPhone and iPad
Wrote the application logic and the algorithm in Objective-C
Upgraded user interface for integration with the iPad

Title: Automated Phone Number Exchange for the iPhone

Contributed to the high-level specifications of the application
Debugged and tested the application on the iPhone simulator

▪ Area: Android OS Application Development

Title: Android Phone to AXIS IP Camera
Wrote an Android phone application in Java to control an IP camera remotely
Established the communication between the phone and the camera via sockets
Implemented control functions to move the IP camera from the phone using the AXIS API
Implemented the application graphical user interface

▪ Area: Computer Networking

Title: Design and implementation of a computer network with WAN connectivity for Oncology Hematology Associates of Southwest Indiana
Draw the network diagram including the VLANs structure
Documented the current protocol configurations
Wrote network configuration files with VLANs and ports configuration on Cisco Catalyst switches.

HONORS

Southern Methodist University, Bobby B. Lyle School of Engineering

Outstanding Graduate Student Award 2015 and 2016

University of Evansville Students Dean's List

Fall 2005, Spring 2006, Spring 2007, Fall 2008