Ariel Taveras

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University Address:
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Education:

Binghamton University, State University of New York, Watson School of Engineering and Applied Science.
Bachelor of Science in Computer Engineering — Expected May 2016
M.S. Computer and Electrical Engineering — Expected May 2017
Major GPA 3.20/4.0 | Cumulative GPA 3.01/4.00. — Deans List- Spring 2015

Technical Skills:

- C/ C++
- VHDL/Verilog
- Java/ Android Studio
- C#/ Visual Studio
- LT-SPICE
- MATLAB
- Python
- Xilinx Tools/ISE
- Linux
- Bash/tcl scripting

Technical Courses:

Circuits, Programming for engineers I and II, Sophomore Design Lab, Programing Concepts & Applications, Digital Logic Design, Signals and Systems, Digital Systems Design, Electronics I, Probabilistic Systems, Computer Communications and Networking, Junior Design Lab, Computer Architecture, Cryptography and Info Security, Computer Organization & Microprocessors, Operating Systems.
Current Courses: Network Computer Security, System on a Chip Design, Digital Systems Design 2, Senior Project.
Business Related Coursework: Financial Management, Organizational Behavior, Macroeconomics, Microeconomics.

Professional and Leadership Experience:

Crestron Electronics Internship — May '15 – Sept'15
Embedded Systems and Firmware Engineering Intern (C/C++, Python, C#)

- Developed programs to automate device-testing procedures using Python and C# languages.
- Wrote C/C++ code in order to test the company's implementation of HDCP 2.0x video encryption protocol.
- Gained experience in network/socket programming (TCP/IP, Telnet, FTP, Serial) using Python and C#.

Binghamton University- EECE department — Jan'15 - Present
Undergraduate Course Assistant for 'Sophomore Design-252' and 'Digital Systems Design-352' courses.

- Assisting students in basic digital circuit design and implementation using FPGA/microcontrollers and assembly/C.

Binghamton University – Dickinson Town Council, O'Connor Hall. — Sept '13- May'15
Vice President of Public Relations (Sept. 2014 – May 2015)

- Facilitated and established means of communication and coordination for E-board members.
- Publicized local events and information through the use of e-mail, flyers/posters, and social media.

*Student Hall Representative/Ambassador (*Sept. 2013 – May 2014)

- Sought feedback and input from community residents in order to improve future community events and participant turnout.

Binghamton University - CS department — Sept '14- Dec '14
Undergraduate Course Assistant for 'Programming for engineers I, CS-211' course.

- Assisted the course professor in running the lab periods as well as keeping track of and grading lab assignments.

Project Experience:

Network Computer Security (Python, Linux, Wireshark, Network switches, Penetration testing) — Spring 2016

- Utilized python language to create an intrusion detection system. Used network tools to create networks and conduct network vulnerability testing and scans.

System on a Chip Design (Xilinx XPS Studio, VHDL/Verilog, C) — Spring 2016

- Developed a hardware accelerator using VHDL for a "dumbed down" GPU implementation that would make computations in parallel and interface with a microcontroller programed in C through the use of software/hardware accessible registers.

Senior Design Project, Real-time Drone Target Tracking (Java, Android) — Fall 2015- Spring 2016

- Created application using the SDK/ API's provided by the Drone device's manufacturer to send video to remote PC.

Line Tracking with PID Controller (C), Binghamton, NY — Fall 2015

- Implemented a line follower algorithm on an AVR atmega-328p microprocessor mounted on a Pololu 3pi robot.
- Utilized light sensors and built in capacitors to detect different colored lines on the ground.
- Implemented a "Position Integral Derivative" algorithm in C language to ensure smooth line and curve tracking.

Junior Design Project (VHDL, C, FPGA, Arduino) — Spring 2015

- Worked on a team of 4 to design and implement a robot capable of performing obstacle avoidance, light sensing, and IR communications.

Programmable Processor (VHDL), Binghamton, NY — Fall 2014

- Worked in a team of two to design and implement a programmable processor in VHDL code using Xilinx tools on an FPGA Board.
- Mounted board on a rover chassis in order to perform operations such as acceleration, movement at constant speed, turning, wide angle turning, etc.
- Developed technical problem solving skills through the use of pulse-width modulation and ISE simulation software.

Single Side Band 'AM' Amplitude Modulation (MATLAB), Binghamton, NY — Fall 2014

- Utilized MATLAB to simulate a Single Side-Band AM signal modulation scheme using the Hilbert Transform function.
- Gained additional insight on radio signals communication. Compiled results into a 13-page report.