APRIL NATTALIE CHAIRE

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Education

California Polytechnic State University, Pomona ***Graduated – March 2017***
B.S. in Computer Engineering, Minor in Computer Science GPA: cum. 3.22 / core 3.28

Skills

Languages

C	C++
Java	Python
MatLab	Bash
X86	PIC assembly
Verilog	VHDL

Software Tools

Vivado	KiCad
Eclipse	Visual Studio
Git	SVN
Qt5	GNU Utilities
MPLabX	

Operating Systems

Windows	Linux
FreeRTOS	Micrium
Bare-Metal	

Hardware

Zynq 7000	PIC 18/24
ARM M4	SPI
RS-232/422	I2C
ADC	DAC

Lab Equipment

Multimeter
Oscilloscope
Wave Generators
Digital Logic Analyzer
Spectrum Analyzer

Hobbies

Snowboarding
Bouldering

Work Experience

Northrop Grumman Corporation (MS) ***April 2017 – Present***
Associate Engineer

- Developed the embedded system firmware and software for a next generation Coriolis vibratory gyroscope (CVG) based IMU prototype utilizing a Zynq 7000 SoC. Responsibilities included: Implement sensor and IMU algorithms, support the implementation and integration of VHDL modules, troubleshoot firmware and software on prototype hardware, and write developer and customer documentation.
- Owned the full development life cycle of an application for testing and tuning CVGs. Implemented features such as data collection in HDF5 compressed file format, embedded Python for scripting high precision performance evaluation tests, and created a message definition independent serial parser.

Systems Engineer Intern and Co-Op ***June 2016 – March 2017***

- Developed software and VHDL modules for CVG mode reversal and SPI communications to an ADC on a Zedboard.
- Designed and developed messaging system for gyroscope testing/tuning software based on DARPA requirements.
- Supported the development of an application in Qt for real time data visualization of gyroscope testing and tuning.

Northrop Grumman Corporation (AS) ***July 2014 – September 2015***
Software Engineer Intern

- Developed test automation scripts in JavaScript for automated end-to-end testing of a UAV ground station using Test Complete.
- Created XML schema to parse telemetry data to be used across test automation scripts for data verification.
- Tested, debugged, and revamped the GUI of a data analysis web application with Adobe Flex.
- Revised XML template for parsing binary messages from UAV flight log.

Extron Electronics ***June 2013 – September 2013***
Applications Engineer Intern

- Analyzed the serial and IP command specifications of third party audiovisual devices using Wireshark.
- Developed synchronous and asynchronous drivers in Python for an audiovisual system controller.
- Tested developed drivers on OEM embedded Unix controller and simulated user interaction with the device mounted on an audiovisual control system.

Maximizing Engineering Potential ***September 2011 – June 2016***
ECE Department Tutor and Workshop Facilitator

- Tutored fellow students one-on-one in data structures, digital logic, and circuit analysis courses.
- Facilitated workshops to enhance students' performance in a C programming introductory course and trained new members to facilitate future workshops.

Projects

Northrop Grumman, Cal Poly Collaboration Project *January 2014 – June 2016*
Communications Lead and UGV Vision Systems Team Member

- Created an interface for a LIDAR device over USB for obstacle detection and avoidance capabilities of an autonomous ground vehicle running Windows Embedded OS.
- Improved range and reduced packet loss of the communication system through antenna testing and analysis.
- Worked on a common datalink library for interoperable communications between multiple unmanned systems.
- Integrated the developed communication system on project system platforms, including working on a CLI wrapper for C#/Windows integration.