Patrick Miskill Lee

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SUMMARY

Bachelor of Science in Electrical Engineering motivated to build a career contributing to products with a positive impact. Personal interests include hardware design, embedded systems, and robotics.

TECHNICAL SKILLS

Hardware

- Silicon Validation and Characterization
- Embedded systems design and integration
- SystemVerilog testbench development
- Design verification, coverage profiling
- Lab hardware control automation
- Statistical process quality method

Software

- Linux environment
- Test Automation
- Python, bash, C, C++, SystemVerilog, Verilog
- Cadence: virtuoso, incisive, SimVision, irun
- Project Data Management: cliosoft sos
- Data Processing/Statistics: Excel, JMP

PROFESSIONAL EXPERIENCE

FPGA Product Validation Engineer, Lattice Semiconductor

San Jose, CA — June 2016-September 2017 (Internship); September 2017-Present

Contributed to three stages in the development cycle: verification (pre-silicon, simulated), validation (on physical chip) and characterization.

- Progressively improved silicon/board bring-up time by leveraging resources: frequent communication with design owners as well as software simulation tools.
- Simplified lab bench setup as well as increasing test coverage with “built-in self-test” (BIST).
- Improved Python-based automation
- Python scripting to automate VISA-protocol lab equipment control, measurements, and data collection across the target range of conditions (temperature, supply voltage, IO voltages/frequencies).
- Following department restructuring, quickly adapted to new duties with unfamiliar technologies (e.g. simulation-based verification, SystemVerilog) and met deadlines.

RELEVANT PROJECTS

Nautilus Aquatic Drone: Undergraduate Capstone Project

University of California, Santa Cruz — January 2017 - June 2017 | Website: http://www.nautilusdrone.com

5-member team project. Deliverables: functional prototype, technical presentation, and general audience presentation.

Personal: Electronics systems, embedded software development, and user-interface.

Team	• Constructed and presented the prototype of “Nautilus”, a semi-autonomous remote-operated underwater vehicle. • Recognized by Engineering Department with the Baskin School of Engineering Dean’s Award.
Individual	• Designed and implemented the core electronics system: processor (Raspberry Pi), peripheral components. • Developed core embedded controls software in C including peripheral management (SPI/I^2C), sensor data acquisition and processing, PID feedback controller for stabilization, and user-pilot input handling. • Created web-based interface to view real-time video feed and allow user control.

Slug Wars: Introduction to Mechatronics Final Project/Robotics Design Competition

University of California, Santa Cruz — Fall Quarter 2015 | Website: http://www.emfstrikesback.wordpress.com

Undergraduate design course with a 3-member team robotics project and competition.

- Rapid prototyping of both hardware and software in an intricate embedded system.
- Developing a robust decision making algorithm to produce autonomous.
- Performing under high pressure and meeting tight deadlines.

EDUCATION

University of California, Santa Cruz

Santa Cruz, CA — Fall 2014-Spring 2017

- Double major: Bachelor’s of Science in Electrical Engineering and Bachelor’s of Arts in Networking and Digital Technology.