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ANDREW GE

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EDUCATION

Princeton, NJ **Princeton University** **June 2019**

- B.S.E. in Electrical Engineering, June 2019. GPA: 3.8/4.0, Major: 3.9/4.0
- Minors in Computer Science, Robotics and Intelligent Sensing
- Relevant Coursework: Electronic Circuit Design; Integrated Circuits; Digital Logic Design; Electronic Devices; Information Security; Information Signals; Computer Architecture; Algorithms and Data Structures

EMPLOYMENT

EE Intern - Hardware **Intuitive Surgical** **Summer 2018**

- Collaborated with UX, mechanical engineering, and software teams to develop project specifications
- Performed schematic capture in OrCAD CIS Capture and layout in Allegro PCB Designer
- Designed boards utilizing technologies such as wireless power transfer, magnetic sensing, and eye tracking
- Wrote and executed test protocols for various PCAs

EE Intern - Firmware **Intuitive Surgical** **Summer 2017**

- Developed modules in Verilog to automate I^2C polling and error recovery (hung bus, NACK, etc.)
- Generated comprehensive testbenches in SystemVerilog; simulated and debugged in QuestaSim
- Built modules on Xilinx FPGA, interfaced with time-of-flight sensors on PCBs
- Wrote javascript interface to hardware, tested module using both RAM and Xilinx IPIC control

Research Assistant **Princeton University Physics Department** **Summer 2016**

- Developed tracking system to simulate light beam paths in Python
- Built silicon photomultiplier photon annihilation detector system, tested with LED pulser
- Debugged detection of cosmic rays and photon annihilations using DRS4 oscilloscope

Student Grader **Princeton University CS Department** **Fall 2016 – present**

- Evaluated student programs and provided feedback for introductory computer science course

TECHNICAL EXPERIENCE

- **Drone landing platform:** Built an omni-drive robot platform equipped with PixyCams to detect a flying drone. Featured steering control algorithms so that platform would locate drone, mirror its movement from the ground, and catch it upon landing, without any communication with the drone.
- **Grounded Low Voltage System**: Starting from specification, performed schematic capture, PCB layout/routing, and assembly for several critical monitoring systems on formula car (BMS, pre-charge, etc.) Individual work as part of formula hybrid team.
- **Lockness Monster:** IoT-enabled smart bike lock designed for integration into frame. Designed prototype in CAD, 3D printed, implemented using an Electric Imp IoT kit. Controlled with web, iPhone, or Pebble app.
- **PU Computer:** Programmed, tested, and implemented a 16-bit, Turing complete microprocessor. Coded in Verilog, implemented on FPGA.

SKILLS

- PCA Design: schematic capture (OrCAD, Cadence Virtuoso, EAGLE), layout (Allegro, EAGLE)
- CAD: Autodesk Inventor, PTC Creo 4.0, SolidWorks CircuitWorks
- Circuitry: Digital/analog circuit design, PSPICE, oscilloscopes, SMD rework
- Programming: Java, C, C++, Python, Matlab, Verilog
- Scripting: Linux/Bash, PowerShell
- FPGA programming experience: Vivado, QuestaSim, iVerilog

EXTRACURRICULARS

- Princeton Racing Electric, Electrical Subteam **Fall 2017 - Present**
- 3D Printing Club **Fall 2017 - Present**
- Princeton Autonomous Vehicle Engineering, Mechanical Subteam **Fall 2015 – Spring 2017**