Luke T. Rooney

Berkeley, CA & Valencia, CA
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Education

University of California, Berkeley | Berkeley, CA — GPA: 3.61 — *Expected Graduation: May 2020*
B.S. *Electrical Engineering & Computer Science*

College of the Canyons | Valencia, CA — GPA: 4.0 — *Graduation: May 2018*
A.S. *Physics,* A.S *Mathematics*

Work Experience

NASA's Jet Propulsion Laboratory | Pasadena, CA — *September 2016 - July 2018 & Summer 2019*
Electrical Systems Engineering Intern - Mars 2020 & NISAR Observatory

- Employed as a year-round intern for 2 years totaling over 2000 hours of on-site job experience
- Responsible for maintaining over 700 pages of drawings and 1200 spacecraft electrical functionalities for the NISAR and Mars 2020 flight projects
- Utilized ICDs, block diagrams, and requirements documents to perform system-wide verification of electrical interfaces
- Designer of over 30 engineering drawings and 100 Visio circuit drawings for power, telemetry, pyrotechnic, guidance, RF, and instrument subsystems
- Wrote a Python script to automate an hours-long manual task performed on a weekly-basis

Various Service Industry Positions — *February 2014 - July 2017*

Side Projects

Autonomous Quadcopter | github.com/ltrooney/quadcopter — *July 2017 - June 2018*

- Designed power, sensor, and motor electronics configuration
- Constructed Arduino C++ flight computer code from scratch
- Implemented a 250 Hz PID feedback control loop to achieve autonomous stabilization behavior
- Performed end-to-end testing and added software fault protection for human/system safety

My Website | www.ltrooney.com — *January 2019 - March 2019*

- Built a static webpage from scratch utilizing HTML/CSS/JavaScript, including the Bootstrap and JQuery libraries

Pacman AI Agent — *February 2019*

- Compared various uninformed/informed graph search algorithms to measure maze path-finding optimality
- Modeled Pacman as a Q-Learning agent to operate autonomously in an unknown multi-agent environment

Hack Computer — *April 2016 - August 2016*

- Designed RAM/ROM and CPU in a hardware description language with modules including sequential chips, an ALU, control logic, and I/O memory mapping
- Integrated and tested a hardware/software abstraction underlying a 16-bit architecture
- Constructed a fully functional assembler, virtual machine, compiler, and operating system in Java

Relevant Coursework

- Structure and Interpretation of Computer Programs • Data Structures • Artificial Intelligence • Design of Information Devices & Systems I/II • Discrete Math & Probability Theory • Computer Vision • AP Computer Science

Skills

Most proficient with: Java, Python, C/C++, HTML/CSS, Mentor Graphics Capital Logic, Microsoft Office Suite
Some experience with: Matlab, Scheme, JavaScript, Bash, MagicDraw (SysML)
Dabbled with: Ruby, Swift, Django, SQL

Awards and Honors

Recipient of the "Most Inspirational" Award | *Varsity Football, West Ranch High School* — *December 2014*

- Awarded for demonstrated leadership ability as team captain of varsity team of over 50 players

References

Available upon request.