Luke T. Rooney

Berkeley, CA & Valencia, CA
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Education

University of California, Berkeley | Berkeley, CA GPA: 3.56 *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*

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

Work Experience

Jet Propulsion Laboratory | Pasadena, CA *September 2016 - July 2018*
Electrical Systems Engineer - Mars 2020 & NISAR

- Employed as an intern for 20 hours per week for 22 months totaling over 1500 hours of on-site job experience
- Responsible for maintaining over 700 pages of design documents and 1200 spacecraft electrical functionalities for the NISAR flight project
- Developed 200 circuit drawings for power, telemetry, pyrotechnic, guidance, and instrument subsystems for the Mars 2020 Rover and NISAR satellite
- Used the SysML modeling language to maintain a document capturing over 3000 system-level electrical interface functionalities
- Designer of over 30 drawings and responsible for coordinating weekly meetings with designers across the project to verify data integrity

Misc. Customer-Facing Roles *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

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

Skills

Most proficient with: Java, Python, C/C++, HTML/CSS, Mentor Graphics Capital Logic, Microsoft Office Suite
Some experience with: JavaScript, Matlab, Ruby, Bash
Dabbled with: Ruby, Swift, and 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.