russellsutton1.github.io
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Russell Sutton

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Experience

Software Engineer, Intern **ManTech International** **July 2020 – August 2020**

- Reduced reverse-engineering efforts by attributing unknown malware using structural and statistical attributes of their binaries.
- Correlated programs through similarities in call graphs and import tables using disassemblers within Python scripts.
- Automated data collection and analysis with Jenkins.
- Reverse engineered open source tools to mimic their functionality on a secure air-gapped machine.
- Developed Python module to streamline integration of new binary analysis tools to database.

R&D Engineer, Intern **Door Controls USA** **June 2019 – August 2019**

- Developed full stack Python application to receive data via GUI and record to SQL Server.
- Wrote firmware for ARM microcontrollers to automate hardware testing and data collection.
- Designed hardware schematic to transmit signals from microcontroller to test subjects.
- Led decision making on appropriate microcontroller and software platforms to meet requirements.
- Managed full product development cycle, including establishing timelines and task delegation.
- Utilized test driven development to take products from design stages to full implementation.
- Implemented I^2C and MQTT communication protocols.
- Consulted managers and end-users to develop product specifications and identify feasible solutions.
- Extensively documented development process to ease legacy support in addition to training.

Projects

Project Manager **Engineering Capstone Design** **January 2020 – Present**

- Mediated customer-contractor relationship with a focus on transparency through regular status reports.
- Delegated roles based on individual's prior experiences and relevant interests to ensure peak productivity.
- Guided overall product concept utilizing skills from prior extracurricular experience.

Battery Protection System Team **Solar Vehicles Team** **August 2019 – May 2020**

- Developed firmware on ARM based microcontrollers for mission critical safety systems.
- Integrated sensors to monitor battery module current flow for competition safety specification compliance.
- Enabled rapid sensor integration with compartmentalized libraries for reliable reuse of code.

Computations Team **Texas Aerial Robotics** **December 2017 – January 2019**

- Developed object tracking and trailing programs to mimic commercial drone software.
- Utilized image recognition software based on neural networks for drone localization and navigation.
- Learned collaborative programming best practices, including code reviews and formatting conventions.

Languages and Technologies

Languages:	• C	**Technologies:**	• RTOS	• Jenkins	• Docker
	• Python		• Git	• KiCAD	• ARM Keil Debugger
	• SQL		• LabVIEW	• Simulink	• Linux CLI
	• MATLAB		• GDB	• Raspberry Pi	• Arduino

Education

Aerospace Engineering, B.S. **The University of Texas at Austin** **August 2016 – December 2020**

Coursework:	• Finite Element Analysis	• Systems Engineering	• Passive & Active Sensor Implementation
	• Feedback Control Systems	• Flight Dynamics	• Subsonic & Supersonic Aerodynamics