russellsutton1.github.io
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Russell Sutton

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Experience

R&D Engineering, Intern — **Door Controls USA** — **June 2019 – Present**

- Developed IoT embedded systems to establish data collection practices, initiating quality assurance.
- Consulted managers and end-users to develop product specifications and identify feasible solutions.
- Led decision making on appropriate microcontroller and software platforms to meet requirements.
- Directed product development and delegated tasks to team members based on their areas of expertise.
- Established product development timelines to ensure buffer time for product deployment issues.
- Implemented I^2C and MQTT communication protocols.
- Constructed Python app for Raspberry Pi's responsible for recording data to SQL Server via custom GUI.
- Utilized test driven development to take products from design stages to full implementation.
- Aided team members with navigating a Linux development environment.
- Extensively documented development process to ease legacy support in addition to training.

Battery Protection System Team — **Solar Vehicles Team** — **August 2019 – Present**

- Developed Arm Cortex -M4 firmware 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.
- Automated testing to validate system's reliability prior to integrating with expensive battery module.

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.

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.

Dairy Plant Project — **Process Modeling Coursework** — **January 2019 – May 2019**

- Collected on-site data to develop an accurate baseline production model.
- Utilized discrete event analysis software to model production capabilities and illustrate capacity limitations.
- Formed recommendations based on model results and made cost-based evaluations of multiple solutions.
- Presented results to industry professionals and received feedback on the integrity of recommendations.

Languages and Technologies

Proficient:

- Embedded C
- C++
- Python
- Matlab
- SimuLink
- SQL
- Raspberry Pi
- Arduino
- Arena Simulation

Familiar:

- ARM Keil Debugger
- SolidWorks 3D CAD
- Java
- LabVIEW

Education

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

Coursework:

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