Education

Embry-Riddle Aeronautical University — MS in Computer and Electrical Engineering GPA: 3.75
Graduation: Spring 2022 Dean's list: Fall 2020, Spring 2021
Relevant Classes: Requirements Engineering, Fundamentals of Systems Engineering, Engineering Project Management, System Safety and Certification

Embry-Riddle Aeronautical University — BS in Computer Engineering GPA: 3.663
Graduation: Fall 2021 Dean's list: Fall 2018, Spring 2019, Fall 2020, Spring 2021— Honor Roll: Fall 2019
Relevant Classes: Digital Circuit Design, Microprocessor Systems, Intro to Discrete Structures, Computer Science II(OOP), Computing Aerospace and Aviation, Digital Systems Design(FPGA), Telecommunication Systems, Computer Architecture, Linear Circuit Analysis, Software Engineering Practices, Operating Systems, Signals and Systems, Real Time Systems

Work Experience

Collins Aerospace June 2020 - August 2020
Software Engineering Intern
Designed, created, and tested software for a few different projects under Collins Aerospace

- Added functionality to the "Black Side Test Manager" that allowed for a software image to be uploaded to a remotely connected device via TFTP in Java
- Created software to be run from command line for a USB hub that allows various parameters to be set via a Python API
- Created software that is able to listen into TENA messages in Python and print their output into individual windows for debugging

Spartan Electronics March 2019 - August 2019
Software Engineering Intern
The goal of the sono-buey debug controller I was working on was to improve and modernize military sono-beuys

- Designed and programmed a Atmel microcontroller that debugged issues with the sono-beuys in order to decrease time spent on debugging and testing

Projects

Nova Flight Computer(ERFSEDS) January 2020 — Present
Chief Computer Engineer, Software Lead, Github Maintainer
The goal of this project is to create a flight computer from components to be used on High Power devices Model Rockets

- Designed a layered architecture that was flexible enough to deal with the various needs of the rockets
- Created various electrical modules for the flight computer using KiCAD
- Managed the software team and created the software to perform various data processing tasks in Cpp with Cmake
- Created the software module that turns sensor data into position and orientation in Cpp with Cmake
- Created the software modulet that determines what actions need to be taken in Cpp with Cmake
- Set up a simple continuous integration that tests multiple modules and does simple flight simulations with Cpp and Cmake

EasyNN(Senior Design) January 2021 — May 2021
Developer
The goal is to create an easy to use, yet highly customizable software that will allow people to easily start train neural networks

- Designed an architecture that will work by default on the MNIST database
- Created a Neural Network layer in python that leveraged Numpy in order to simplify and speed up calculations

NASA Robotic Mining Competition(Robotics Association) September 2018 — May 2020
Project Lead, Electrical Member, Software Member
NASA Robotic Mining Competition(RMC) is a competition held every May at Kennedy Space Center where a robot must be designed that must cross rough terrain, mine icy regolith, and return it to a bin for processing

- Managed a robotics team consisting of roughly 30 members during a complete redesign to all systems to increase the performance of the robot at competition with the criteria to maximize regolith collection
- Designed electrical boards in Autodesk Eagle that allowed for a microcontroller to communicate with a main computer and interface with a variety of sensors and controllers
- Programmed the walking motion of a robot with C-shaped Legs in Labview

Artemis Rocket(ERFSEDS) January 2019 — May 2021
Avionics Member
Artemis is a two-stage rocket that competes in the Spaceport America Rocket Competition.

- Discovered a safety issue that caused the flight computer to not act as intended
- Redesigned the Ebay in order to ensure the safety of the rocket and compliance with Spaceport America Rules
- Analyzed the data from the flight computer in order to diagnose flight issues and determine the performance of the payload and avionics system

Rose Processor(Class Project) September 2018 — December 2018
Designer
Modified the design of a micro-processor implemented on an FPGA in Verilog

- Increased the throughput of the processor by a factor of two by creating a two stage pipeline
- Simplified the processor's IO operations by mapping IO operations to registers in the data memory
- Designed and implemented a stack to increase the functionality of the board
- Created a variable length opcode(fixed instruction size) in order to expand the number of operations that can be done without changing information

ERFSEDS(Club) May 2020 — PRESENT
Chief Computer Engineer
Responsible for the safe and successful operation of all electronics

- Ensured the safe design and operation of all electronics by setting up review processes for all components
- Created and Managed the organization's Github in order to provide version control and issue tracking

- Organized a Systems Engineering process for the development of electronics within Cerberus

Robotics Association of Embry-Riddle(Club)   September 2018 — May 2021
President, Vice President
  Lead the club through the COVID crises ensuring the continued success of the club

- Ensured the training of new members with workshops to teach application of engineering and technical skills
- Adapted to circumstances through the COVID Pandemic
- ensuring the continued development while ensuring safety and adherence to school policies
- Increased the awareness of the clubs and projects of RAER within the organization and the school
- with the best recruiting in several years

Skills