

AYBERK YARANERI

217 390 1132 ♦ ayberkyaraneri@gmail.com ♦ github.com/AyberkY

EDUCATION

University of Illinois at Urbana Champaign
Bachelor of Science in Aerospace Engineering
Minor in Computer Science

2018 - 2022
GPA : 3.43/4.00

TECHNICAL COMPETENCIES

Programming Languages: C++, Python, MATLAB, Java
Tools: Git, Vim, GDB, Clang, TensorFlow, Keras, OpenVino
Other Competencies: Linux Command Line, LaTeX

EXPERIENCE

Illinois Applied Research Institute
Robotics Developer

February 2019 - September 2019

- Assisted in the development of autonomous multirotor UAVs intended for a simulated reconnaissance mission utilizing convolutional neural networks for detection and tracking of ground agents.
- Conducted transfer learning on various object detection networks such as Faster R-CNN, SSD, and YOLO.
- Optimized trained neural networks using the OpenVino toolkit to run on an Intel Movidius Neural Computer Stick for accelerated on-board inference.
- Configured Raspberry Pi computers to work with the Movidius NCS and transmit observations as Mavlink messages through the Pixhawk flight controller's telemetry connection.
- Wrote code to automate data collection and labelling which expedited the training process.

LEADERSHIP AND ACTIVITIES

NASA Student Launch Rocketry Competition
Chief Engineer of Payload

September 2018 - Present

- Collaborating with Project Manager in leading the development of an air deployed autonomous quadrotor tasked to collect a simulated ice sample.
- Implementing computer vision algorithms in C++ which will detect and guide the UAV towards ice retrieval site.
- Applying software-in-the-loop methods using Ardupilot-SITL and Gazebo to thoroughly test corner cases and validate software reliability.
-

NASA Midwest High Power Rocketry Competition
Avionics Team Lead

September 2018 - September 2019

- Lead an all-freshman team in developing an avionics package tasked to collect performance data of a supersonic high powered rocket.
- Embedded a Raspberry Pi Zero as the primary flight computer which utilized I2C and SPI communication protocols to acquire data from on-board sensors.
- Assigned and oversaw the development of flight software written in Python for all sub systems.
- Coordinated the development and assembly of a printed circuit board allowing for a more streamlined design.

Spaceport America Cup Rocketry Competition
Avionics Team Member

September 2018 - June 2019

- Lead the development of an on-board flight computer designed to actuate external control surfaces for roll control and active drag manipulation.
- Embedded an Atmega328P microcontroller and wrote flight software implementing a closed loop PID controller.
- Designed a printed circuit board that served as the primary structural member of the flight computer.
- Assisted in the development of Wi-Fi enabled solid state switches using ESP8266 microcontrollers to wirelessly toggle power to onboard systems.