AYBERK YARANERI

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

EDUCATION

University of Illinois at Urbana Champaign *2018 - 2022*
Bachelor of Science in Aerospace Engineering *GPA : 3.43/4.00*
Minor in Computer Science

TECHNICAL COMPETENCIES

Programming Languages: C++, Python, MATLAB, Java
Tools: Git, Vim, GDB, Clang, Comfortable working in Linux
Machine Learning Tools: TensorFlow, Keras, OpenVino

EXPERIENCE

Illinois Applied Research Institute February 2019 - September 2019
Robotics Developer

- Assisted in the development of autonomous multirotor UAVs intended for a simulated reconnaissance mission utilizing convolutional neural networks for detection and tracking of ground ajents.
- 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-oard 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.
- Worked with Ardupilot-SITL and Gazebo as a physics simulator.

LEADERSHIP AND ACTIVITIES

NASA Student Launch Rocketry Competition September 2018 - Present
Chief Engineer of Payload

- Collaborating with Project Manager in leading the development of an air deployed autonomous quadrotor UAV tasked to collect a simulated ice sample.

NASA Midwest High Power Rocketry Competition September 2018 - September 2019
Avionics Team Lead

- 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.
- Worked with 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 September 2018 - June 2019
Avionics Team Member

- 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 enbaled solid state switches using ESP8266 microcontrollers to wirelessly toggle power to onboard systems.