Robert L. Whitney

rw429@cornell.edu || Portfolio

Education:

Cornell University   Ithaca, NY
Master of Engineering in Mechanical & Aerospace Engineering - GPA : 3.98   2020
Bachelor of Science in Mechanical & Aerospace Engineering - GPA : 3.37   2016-2020

Skills:

Matlab · Simulink · Arduino · Analysis and Design of RC Quadcopters · Multirotor Piloting ·
Mechatronics Motors, Sensors, and Actuators · XFLR5 · Fusion 360 · Autodesk · Java · Machine Shop
Training (Lathe, Milling, GD&T) · Python · C/C++ · Data Structures

Specialized Courses:

Fast Robots · Intelligent Sensor Planning and Control · Design Failure Mode Analysis · Autonomous
Mobile Robots · Multivariable Control Theory · Feedback & Control Systems · Automotive
Engineering · Experimental Applications of Mechanical Structures · Intermediate Dynamics ·
Mechatronics

Engineering Experience:

Cornell University: SIOS Laboratory   Ithaca, NY
CCAT-p Research Team: Controls Subteam Engineer   Summer 2019-2020
- Implemented mechatronics hardware and software for a high precision metrology robot
- Programmed in Arduino IDE, Python, and Matlab for localizing, actuating, and wireless communication
- Collaborated with 3 other subteams (16 engineers total) to develop the chassis and meet performance specifications

Independent Senior Design Project   Ithaca, NY
Simulation, Analysis, and Design of an RC Aircraft Autopilot   Spring 2020-Present
- Designed and modeled an airframe in Fusion 360
- Performed an airfoil and control surface simulation in XFLR5 fluid simulation
- Developed a 6DoF simulation of the aircraft and feedback control systems in Matlab and Simulink
- Implementing the autopilot system in hardware with Arduino for navigation and control

MAE 5180 : Autonomous Mobile Robots   Ithaca, NY
                                                                                                          Spring 2020
- A graduate course on autonomous localization, mapping, SLAM, path planning, and navigation
- Programmed in Matlab to test algorithms on hardware with iRobot Roombas

Accomplishments:

Cornell Division I Cross Country/Winter/Spring Track · B.S.A. Eagle Scout