

Braden Eichmeier

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Education:

Carnegie Mellon University – School of Computer Science Pittsburgh, PA
Master of Science in Robotic Systems Development | GPA: 4.17/4.00 May 2021

Utah State University Logan, UT
Bachelor of Science in Mechanical Engineering | GPA: 3.99/4.00 May 2019

Experience:

Hill Air Force Base Ogden, UT
F-16 Process Engineer May 2018 – July 2019

- Reverse engineered antiquated equipment to enhance workflow of F-16 depot maintenance procedures
- Interfaced with repair technicians to add new design features on next-generation equipment
- Brainstormed modern aircraft work stands and presented proposed dock arrangement to leadership

Utah Power Electronics Lab Logan, UT
Research Assistant August 2017 - May 2019

- Conceptualized casing and heat transfer for medium voltage AC unloader and DC-DC converter
- Retrofitted jet engine testing facility, to accommodate destructive battery and other explosive testing
- Developed a carrying case for a 30-cell active balancing battery pack for a military customer
- Fabricated testing fixtures to facilitate research for wireless power transfer to electric vehicles

Space Dynamics Lab Logan, UT
Engineering Intern May 2017 - August 2017

- Designed and built a 2.5" drive bay mount for an OLED display for use on a rack-mount server
- Enhanced product in an interdisciplinary team to account both mechanical and electrical considerations
- Modeled and prepared drawings for all parts to fabricate and assemble the final product

Projects:

MRSD Final Project Carnegie Mellon University | August 2019 - May 2020

- Augment DJI M600 drone with an Autonomous Airborne Collision Avoidance System (AACAS)
- Create simulation environments in MATLAB and Gazebo (ROS) to iterate local avoidance planner
- Design local planning algorithm with vector fields to reactively avoid dynamic obstacles

Autonomous Vehicle Competition Team Utah State University | January 2018 - May 2019

- Collaborated with small team on an autonomous car for Sparkfun's Autonomous Vehicle Competition
- Implemented a go-to-goal controller with LQR optimization in MATLAB
- Visualized the vehicle in RVIZ for simulations using URDF files derived from SolidWorks models
- Upgraded SLAM capabilities of the vehicle with Google Cartographer and a TIM551 LiDAR

Beehive Image and Audio Recognition Utah State University | November 2018

- Analyzed images and audio files to detect the presence of bees near a privately owned beehive
- Tested various architectures of both ANNs and CNNs on detection and classification performance
- Developed training and classification pipeline using TFLearn package

Skills/Competencies:

Programming Languages: Python, MATLAB, C++

Robotics: ROS, State Space Control, Motion Planning, RVIZ, Computer Vision, URDF

Machine Learning: Neural Networks, CNNs, SVMs