Matthew Epperson

Computer Engineer | Roboticist
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EDUCATION

UNIVERSITY CALIFORNIA SAN DIEGO
MS in Electrical and Computer Engineering
Expected Graduation March 2018
San Diego, CA
GPA: 3.2

CALIFORNIA POLYTECHNIC STATE UNIVERSITY
BS in Computer Engineering
Graduated June 2016
San Luis Obispo, CA
President's List
Dean's List (4 Quarters)
Cum. GPA: 3.56 / 4.0
Major GPA: 3.65 / 4.0

LUZERN UNIVERSITY OF APPLIED SCIENCES AND ARTS
Echange Student, Fall 2015
Luzern, Switzerland

TECHNICAL SKILLS

- C/C++
- Python
- Haskell
- Linux
- ROS
- Vivado HLS
- PCB Layout

AWARDS

2015 NREIP Scholarship Awardee
2014 NREIP Scholarship Awardee
2013 NREIP Scholarship Awardee
2012 CPS Education Equity Scholarship
2012 CPS Partners Scholarship

COURSEWORK

UNDERGRADUATE
Operating Systems
Networks
Digital Design
Real-Time Operating Systems

GRADUATE
Statistical Learning
Probabilistic AI
Digital Signal Processing
Linear Control Systems

EXPERIENCE

KITTY HAWK | R&D Intern
June 2017 – September 2017 | Palo Alto, California

- Developed automated testing suite for electic vehicle battery system
- Improved control and estimation algorithm for permanent magnet synchronous motor resulting in increased efficiency and maximum power output

PLANCK AEROSYSTEMS | R&D Intern
March 2017 – June 2017 | San Diego, California

- Developed Convolution Neural Network solution for detecting and tracking multiple objects in real-time for an embedded real-time application

NASA JET PROPULSION LABORATORY | Robotics Intern
June 2016 – August 2016 | Pasadena, California

- Performed literature review on current methods of formation control for autonomous agents
- Designed a formation control algorithm for dynamic reconfiguration of formation shape to meet mission requirements and increase cohesion during obstacle avoidance for autonomous boats

AEROSCOUT GMBH | Software Consultant
November 2015 – January 2016 | Luzern, Switzerland

- Developed software bridge between LIDAR unit and ROS for real time feature extraction of power lines from point cloud data for use on rotary aircraft

NAVAL POSTGRADUATE SCHOOL
Naval Research Enterprise Internship Program
2011 – 2015 | Monterey, CA

- Designed a decentralized cooperative resource allocation algorithm for deconflicting airspace that was successfully field tested in a 15-UAV mission
- Rapidly prototyped GUI during live-fly field experimentation for safety critical situational awareness
- Served in the role of Swarm Operator for record breaking 30-UAV live-fly field experimentation
- Designed and integrated Reynolds like flocking algorithm for a swarm of flying wing UAVs

SENIOR PROJECT

Cal Poly
August 2015 – July 2016

- Created embedded system to record orientation and positional information to provide user feedback for board sports
- Designed and manufactured printed circuit board (PCB) that included a ARM Cortex M0 microcontroller, GPS, 32MB of flash storage, and 9DOF inertial measurement unit (IMU)
- Wrote device drivers for each sensor, a custom file system, and a task scheduler