Eliezar Vigdorchik

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EXPERIENCE

Darkhive Oakland, CA
Senior Systems Engineer August 2024 – September 2025

- Utilized trade studies, simulation, and downselection to create systems diagrams leading to fewer prototype iterations
- Implemented software testing at unit, integration, system, and acceptance levels through an automated CI, SITL, and HITL reducing unexpected behaviors during flight tests and yielding useful and expected data
- Fabricated fixtures and a UI to automate pcb flashing, config, and test in production facilities increasing efficiency by 10x
- Developed ROS and PX4 drivers in Python and C++ that interface through UART, I^2C, SPI, CAN, PWM, etc.
- Managed code changes and reviews using Git while adhering to coding style standards used across entire team
- Deployed dockerized features to vehicles maintaining modularity and interoperability between flight/compute platforms

TeamSense Oakland, CA
Founder and Autonomy Engineer August 2022 – March 2025

- Formed an LLC through relevant agreements and registrations allowing the business to bring in a $1.5M NAVAIR contract
- Organized perspective customer meetings, reviewed contracts, and created marketing slides leading to contracts and sales
- Assembled surrogate vehicles and flight plans to demo reliable autonomy capabilities and integration ease to customers
- Modified PX4 controller tuning, estimation, and signal filtering leading to improved performance, stability, and reliability
- Simulated vehicle behavior and dynamics through Python controls library to reduce risk at flight tests and demonstrations

Volansi Concord, CA
Firmware and Flight Test Engineer March 2021 – August 2022

- Supported communication between firmware and test flight teams reducing development time by an order of magnitude
- Modified model planes to make an easily manufactured, low-risk platform to increase physical testing access for software developers through 3D models in Solidworks and COTS component selections
- Created and tested algorithms in Gazebo and flight test of safety critical flight modes to de-risk delivery operations
- Built systems for logging radio status data and other information for improved reliability and data analytics

PROJECTS

Ball Plate Balancing System April 2020 – Jan 2021

- Wrote an estimator and PID controller from scratch on Arduino to balance a pin ball on a resistive touch screen
- Tuned the controller through various methods including guess and check and ziegler nichols tuning

Masters Mechatronics Project January 2019 – May 2019

- Collaborated cross functionally with 3 students to produce a system that can autonomously traverse skyscrapers and clean windows to mitigate risk and human intervention
- Designed and fabricated parts for multiple iterations, resulting in easier assembly, quicker fabrication, and tighter fit
- Programmed Arduino with PID control and IMU with noise filtering to enable accurate orientation on window surface

EDUCATION

Carnegie Mellon University Pittsburgh, PA
Master of Science, Mechanical Engineering May 2019

University of California, Merced (UC Merced) Merced, CA
Bachelor of Science, Mechanical Engineering May 2018

SKILLS

Programming: Python, C++, Matlab/Simulink, PX4 flight stack, Bash script, ROS, Gazebo
3D Modeling: Solidworks, Creo Parametric, Onshape
Licenses: Part 107 UAS, Class C and M Driving, USHPA H3