Austin Lin

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Open to Relocation

SUMMARY

Engineer with experience in requirements verification, and utilizing Python and MATLAB for modeling, simulation and robotics.

TECHNICAL SKILLS

Languages: Python, C++, Java
Tools: MATLAB/Simulink, ROS2/Gazebo, SciPy**,** ZeroMQ, TCP/IP, Siemens NX, Git

EXPERIENCE

General Dynamics Electric Boat
Systems Engineer, New London CT — Sept 2024 - Present

- Programmed and deployed a tool to cut down a 3-4 hour manual review process into a < 30 minute calculation with improved accuracy. Application combines data from 3D models and finite element transient shock studies for modelling, and employs statistical methods and cost-constraint optimization in MATLAB.
- Led a small team of engineers to implement class-wide design changes to improve safety and reliability in accordance with DoW requirements.
- Identify construction bottlenecks by coordinating closely with other disciplines (Design, Work Planning, Trades) and by providing engineering assistance to maintain quality and schedule.

L3Harris C5 Systems
Systems Engineering Intern, Camden, NJ — June 2023 – Aug 2023

- Demonstrated quality of product for the customer through performing System Operability Verification Tests for Marcom IVCS and Symphony. Completed CompTIA Network+ Training.
- Performed troubleshooting on various network/radio configurations with Linux-based hardware.

UMD Spaces Systems Lab
Undergrad Researcher, College Park, MD — May 2022 – Aug 2022

- Delivered testing and modelling results to guide spacecraft design research with Benjamin Reed from Quantum Space and Dr. David Akin.
- Calculated and visualized robotic arm kinematics to test reachability of payloads for in-orbit servicing with Python.
- Designed and fabricated a ¼-scale physical robotic arm prototype. Produced and executed test procedure to validate python model results for 24+ spacecraft configurations.

PROJECTS

Robotics and Autonomous Systems

- Programmed robots to identify, grab, and hand off Legos to each other. Trained a YOLOv8 Computer vision model for object identification and ZeroMQ through TCP/IP for inter-robot communication.
- Implemented a maze solving algorithm into a robot, using LIDAR information and ROS2 for live localization and mapping.
- Developed hardware and software for a robot arm and controller. Programmed an Arduino microprocessor to communicate over serial bus to a computer that calculates and graphically diplays arm kinematics.

Battery State of Charge Estimator Simulation

- Created an interactive model of a battery with Python/Shiny to explore how adding measurement noise and adjusting Leuenberger observer gain impacts state of charge estimator accuracy and convergence.

EDUCATION

University of Maryland, College Park, MD — Aug 2020 – Aug 2024
B.S. Mechanical Engineering, Minor in Robotics and Autonomous Systems
Scholars Public Leadership Program