# Austin Lin

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Open to Relocation | Active US Secret Clearance

## SUMMARY

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

## 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

- Reviewed and signed on electrical power systems updates to meet Columbia-class Ship Specifications.
- Identified latent electrical quality issues resulting from procedural gaps, and then developed and executed plan of corrective actions.
- Coordinated with Design, Planning, Structural, and Waterfront/Trades to maintain configuration management and reduce potential rework, in support of ongoing construction acceleration efforts.
- Hosted training meetings to familiarize engineers with using internal tools and ongoing long-term projects.

**L3Harris C5 Systems**

*Systems Engineering Intern*, Camden, NJ                                      June 2023 – Aug 2023

- Demonstrate quality of product for the customer by performing System Operability Verification Tests for Marcom IVCS and Symphony.
- Used rack mounted Linux-based hardware to program various network/radio communication configurations.

**UMD Spaces Systems Lab**

*Undergrad Researcher,* College Park, MD                                      May 2022 – Aug 2022

- Modeled spacecraft robotic arm kinematics with Python to test reachability of payloads for in-orbit servicing missions, with Benjamin Reed from Quantum Space and Dr. David Akin.
- Designed and fabricated a ¼-scale physical robotic arm prototype. Produced and executed test procedure to validate python model results for 24+ spacecraft configurations.
- Presented testing and Modelling results to Stakeholders.

## 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. Used an Arduino microprocessor to send robot telemetry over a serial bus to a computer for graphically visualizing 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 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*