

# Austin Lin

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Open to Relocation

## SUMMARY

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

## TECHNICAL SKILLS

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**Languages:** Python, C++, Java

**Tools:** MATLAB/Simulink, ROS2/Gazebo, SciPy, ZeroMQ, TCP/IP, Siemens NX, Git

## EXPERIENCE

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### General Dynamics Electric Boat

*Systems Engineer, New London CT*

Sept 2024 - Present

- Programmed and deployed a tool to cut down a 4 hour manual process into a 30 minute calculation with improved accuracy. Utilized data from 3D models, finite element transient shock studies, statistical methods, and cost-constraint optimization in MATLAB.
- Led 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

- Demonstrate quality of product for the customer through 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

- Delivered testing and modelling results to guide spacecraft design research with Benjamin Reed from Quantum Space and Dr. David Akin.
- Used Python to calculate robotic arm kinematics to test reachability of payloads for in-orbit servicing.
- Designed and fabricated a 1/4-scale physical robotic arm prototype. Produced and executed test procedure to validate python model results for 24+ spacecraft configurations.

## PROJECTS

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### 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 shows 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

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**University of Maryland, College Park, MD**

Aug 2020 – Aug 2024

B.S. Mechanical Engineering, Minor in Robotics and Autonomous Systems

*Scholars Public Leadership Program*