Eric Kim

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Education

BS in Aerospace Engineering, Minor in Robotics, GPA: 3.95 Expected May 2025
University of Maryland College Park, MD

- **AEROS Scholar (Awarded July 2022)**
- **Aspire Scholarship (Awarded Dec. 2022, May 2023)**

Skills and Abilities

CAD/FEA: Autodesk Inventor, SolidWorks, Siemens NX 11 and 2206, NX NASTRAN, ANSYS
Manufacturing/Machining: 3D printing, CNC milling, laser cutting, GD&T (ASME Y14.5)
Programming Languages: Java, Python, MATLAB, C++, Arduino, HTML, Javascript

Work Experience

Blue Origin - Composite Fabrication Hub Merritt Island, FL
Manufacturing Engineering Intern Jan. 2024 - Present

- Improve the time and complexity of a frangible joint assembly installation process by blocking the flow of liquid adhesive paste into sensitive spaces through the use of custom 3D-printed component
- Create a reusable fixture to test resin injection port distance separation and bond line thickness consistency, determining suitable manufacturing techniques on a composite flange assembly
- Receive skills certification for hand-drilling precision holes, installing rivets and HI-LOK fasteners based on engineering drawings and technical specifications
- Implement visual and verbal work instruction of dry fiber layup and infusion of a 16-foot diameter composite tool, facilitating communication and critiques between off-site engineers and technicians

BAE Systems - Strategic Systems Program Rockville, MD
Systems Engineering Intern May 2023 - Aug 2023

- Formulated a script in Cameo System Modeler to automatically update document representations and references in a documentation mapping containing over 800 fleet maintenance procedures
- Programmed a set of macros on Cameo System Modeler to generate activity diagrams of paper-based maintenance procedures with steps in chronological order, reducing the time to make diagrams by over 75%

Technical Projects

University Rover Challenge (UMD Loop) College Park, MD
Drivetrain Lead Feb. 2023 - Present

- Head design, prototype, and analysis of a six-wheel, rocker-bogie suspension rover with 10-inch diameter wheels capable of driving over obstacles a foot tall, on sandy terrain, and up 30 degree gradients
- Model four unique rover suspension configurations using parallel linkages and varying joint locations using NX2206 to simulate dynamically on hills and challenging terrain
- Lead manufacturing of a rover prototype with a build time of one week to test the rocker-bogie system and gather design considerations not previously considered

Composites Research Laboratory College Park, MD
Undergraduate Researcher June 2022 - Jan. 2024

- Created a torque testing rig in SolidWorks to reliably twist a pressurized pneumatic artificial muscle (PAM) in different modes of operation with a known torque to collect data on PAM strength
- Calibrated load sensors and encoders to sample PAM strength data using custom software and hardware with a combination of Arduino and MATLAB in experiments
- Compared the strength of a PAM using torque data from the test rig to theoretical torsional rigidity relations

Not-A-Boring Competition (UMD Loop) College Park, MD
Responsible Engineer and Subteam Lead Sept. 2020 - Feb. 2023

- Designed, manufactured, and assembled a cantilevered auger assembly in NX 11 capable of transporting sedimentary rocks up to 1-inch diameter through tight spaces within a micro tunnel boring machine
- Procured engineering drawings to list specific fits, hole locations, and weld specifications in the ASME Y14.5 standard for the auger assembly and other excavation tools

Side Projects

Maze Solver Turtlebot3 - Physically implemented maze-solving program for a 2-wheel robot Apr. - May 2023
Self-landing Rocket Program - Custom control loop that can land a 28-meter stage in simulation Apr. - May 2023
ENES100 Wire Organizer - Automatically winds and deploys charging cables Apr. - May 2021