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, CREO, Catia, 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 - April 2024

- Improved the time and complexity of a frangible joint assembly installation by blocking the flow of liquid adhesive paste into sensitive spaces through the use of custom 3D-printed component
- Created and utilized a reusable fixture to test and find an optimal resin injection technique and port spacing to join a large-scale composite flange assembly
- Received skills certification and training for hand-drilling precision holes, installing buck rivets and HI-LOK fasteners based on engineering drawings and technical specifications
- Implemented 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 digital document representations and references from over 800 fleet maintenance typescripts
- 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 Advisor — Feb. 2023 - Present

- Head design, prototype, and analysis of a six-wheel, rocker-bogie suspension rover capable of driving over obstacles a foot tall, on sandy terrain, and up 30-degree gradients using terramechanics and force analysis
- Downselect rover suspension designs by testing dynamic models with a physics engine on NX Motion, evaluating numerical results of wheel dynamics and rover stability
- Lead manufacturing of a prototype rover with rocker-bogie suspension made of commercial components, making it operational within two weeks of conception

Composites Research Laboratory — College Park, MD
Undergraduate Researcher — June 2022 - Present

- Ideate and build a custom testing fixture for pneumatic artificial muscles to characterize the torsional stiffness, achieving 2% error and 150 pound-inches of torque with a resolution of 0.02 degrees
- Calibrate load sensors and encoders to sample PAM strength data using custom software and hardware with a combination of Arduino and MATLAB in experiments
- Collaborate with chemical engineers to perform four-point bending tests on cryogenic resin samples to compare and present relative flexural stiffnesses, choosing optimal samples for further testing

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