Steven Kuo

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EDUCATION

University of Maryland, College Park **GPA: 4.0**
B.S. Mechanical Engineering Expected **May 2026**
Minor: Robotics and Autonomous Systems
University Honors

SKILLS

CAD: SolidWorks, Autodesk Inventor, Siemens NX & NASTRAN, Fusion 360
Engineering: FDM 3D Printing, Waterjet, Machining, FEA, Soldering, GD&T, TIG Welding
Programming: Java, C++, MATLAB

EXPERIENCE

Terrapin Works | College Park, MD **February 2023 - Present**
Technician, Instructional Fabrication Lab

- Instructed other students and provided assistance on operating the lab's machines
- Provided subtractive manufacturing services to fabricate custom orders
- Completed training for 3-axis CNC mill, using **Fusion 360** for CAM

Over Terrain Vehicle (OTV) Project | College Park, MD **January 2023 - May 2023**
Programming Lead

- Collaborated in a team of seven to design and build an OTV that uses machine learning to identify the correct substrate from a set of pots and plants lima beans into the proper pots
- Developed the navigation code in **C++** capable of generating a path between setpoints with automatic course correction using PID to achieve accuracy within two millimeters

UMD Loop | College Park, MD **September 2022 - Present**
University Rover Competition - Arm Subteam Member (February 2023 - Present)

- Developed arm structure in **SolidWorks** while incorporating feedback from leadership
- Prepared BOM and assisted with organizing the ordering of custom and COTS parts

Not-A-Boring Competition - Tunnel Support Member (September 2022 - January 2023)

- Drafted engineering drawings in **SolidWorks** to obtain quotes from manufacturers
- Utilized FEA in **NX** to determine structural integrity of assemblies and optimize designs
- Completed hand calculations and bolt-level analysis to justify and improve designs

Leatherbacks Combat Robotics | College Park, MD **September 2022 - Present**
1 lb, 12 lb, 30 lb Team - Member

- Designed parts in **SolidWorks** for robots in the 1 lb, 12 lb and 30 lb weight classes
- Manufactured parts for the 30 lb and 1 lb robot by operating the waterjet and drill mill
- Soldered all the necessary electronic components for an operational 1 lb robot

Dulaney FIRST Robotics Competition | Timonium, MD **September 2018 - May 2022**
Team President

- Instructed new members how to fabricate parts with metalworking tools and 3D printers
- Managed a team of 20 members to design the first iteration of the robot in two weeks using **Autodesk Inventor**, translating to the final 125 lb robot by the sixth week
- Supervised programming subteam to help with debugging in **Java** as well as incorporating encoders and PID control loops for precise motor control
- Raised $5,000 via sponsorship outreach and presentations to fund the season's operations