Matthew Zhang

3513 Rhode Valley Trail, Ellicott City, MD 21042 | 443-538-7470 | mjzhang4@illinois.edu | mjzhang4.github.io

EDUCATION

University of Illinois at Urbana-Champaign 4.00 GPA *Expected Graduation 05/2024*
Bachelor of Science in Mechanical Engineering

WORK EXPERIENCE AND VOLUNTEERING

FIRST Tech Challenge Robotics Mentoring *08/2020 - Present*

- Leading training sessions for a group of 8 on Fusion360 CAD and Java programming
- Advising robot design decisions and providing expertise throughout the season

LEGO Robotics Tutoring *06/2020 - 08/2020*

- Taught robotics programming skills to an elementary schooler

Johns Hopkins University Applied Physics Laboratory Intern *06/2018 - 08/2018*

- Developed HoloLens augmented reality visualization for paratrooper motion capture data to analyze stresses on paratrooper bodies during landing
- Programmed visualization using Unity3D, C#, and MATLAB scripts to display a moving paratrooper in augmented reality on the Microsoft HoloLens

ACTIVITIES

Combat Robotics Team: "Parts and Wreck" *09/2020 - Present*

- Designing a 30lb combat robot in Solidworks to compete at a competition held by iRobotics
- Leading the chassis design sub-team consisting of 4 members to brainstorm, CAD, and manufacture a robot drive base

Illini Solar Car *09/2020 - Present*

- Designing a solar-powered car to compete in long-distance endurance races
- Communicating and working with a small team to develop dynamic wheel doors to improve car aerodynamics and efficiency

Science Olympiad *08/2016 - 05/2020*

- Competed in various science related events and achieved 1st in Mission Possible, Write it Do it, and Boomilever events, 2nd in Circuit Lab at 2019 Maryland state competition
- Learned microcontroller programming, soldering, 3D printing, and hand tool skills

FIRST Tech Challenge Robotics Competition *08/2015 - 05/2020*

- Modeled, manufactured, and programmed a robot for a yearly robotics competition
- Coordinated and led Solidworks CAD design, custom CNC manufacturing, and programming efforts as leader of team 9866 from 2015-2020
- Qualified for world competition as the 2020 Maryland State Finalist

SKILLS

Computer Aided Design: Certified SolidWorks Professional (CSWP); Comfortable with Creo, Autodesk Inventor, Fusion360, Learning Siemens NX

Programming: Proficient with Java, MATLAB; Comfortable with C#, C, Python, HTML/CSS

Other Software: Proficient with Microsoft Office, PrusaSlicer, GrabCAD; Comfortable with aPriori, Git

Experience: Rapid prototyping mechanical components using 3D printing and laser cutting, Design for manufacture of injection molded, sheet metal, and 3D printed parts, CAM and CNC programming and operation, Soldering and electronics, ANSI Engineering drawings and GD&T Standards