Matthew Zhang

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EDUCATION

University of Illinois at Urbana-Champaign 3.97 GPA *08/2020 - 05/2024*

Bachelor of Science in Mechanical Engineering, Minor in Computer Engineering

WORK EXPERIENCE

Tesla (Fremont, CA) - *Mechanical Design Engineer – Vehicle Interiors* *06/2024 - Present*

- Launched 2025 refresh Model S/X door trims, addressed numerous high-priority production issues
- Leading development of next-generation interior vehicle door trim
- Designing automotive interior parts/assemblies to achieve functional, safety, durability, and cost targets
- Optimizing parts for high-volume manufacturing methods including injection molding, metal stamping, plastic welding, and automated + manual assembly processes
- Collaborating with international suppliers to resolve quality issues and overseeing project timeline

Gecko Robotics (Pittsburgh, PA) - *Mechanical Engineering Intern* *05/2023 - 08/2023*

- Developed a testing station according to needs from multiple stakeholders which allows a human operator to verify functionality of a robotic sensor payload
- Analyzed a cable-snag loading scenario and optimized robot mounting structure using an Ansys FEA model to increase yielding safety factor by 40% with minimal impact to stiffness and weight

Precision Planting (Tremont, IL) - *Mechanical Engineering Intern* *05/2022 - 08/2022*

- Designed and fabricated components of GeoPress automated soil sampling system over a period of 3 months to mature the product from an initial proof-of concept prototype to an unveiled product

PERSONAL PROJECTS / EXTRACURRICULAR ACTIVITIES

Combat Robotics *07/2020 - Present*

- Building and competing with 1, 3, and 30lb combat robots achieving 10+ podium finishes at numerous competitions up to the international level
- Designing and fabricating custom robot chassis and weapon systems with a focus on high durability and reliability in both mechanical and electrical systems
- Conducting post-match failure mode analysis and iterating upon designs for continuous improvement
- Developing custom STM32-based telemetry electronics to log robot data on SD card and transmit wirelessly to a laptop for real-time analysis

Illini Solar Car (Urbana, IL) – *Mechanical Lead (2022-23)* *09/2020 - 09/2023*

- Led a 30-member team by facilitating meetings, tracking progress, and setting team agendas/goals
- Designed a lightweight carbon composite structural chassis for a high efficiency solar-powered vehicle according to competition regulations and analyzed strength using Ansys composite FEA tools

SKILLS

Engineering Software: SolidWorks (Certified SolidWorks Professional), CATIA V5/V6, ENOVIA, PTC Creo/Pro-E, Siemens NX, Autodesk Inventor, Ansys Mechanical structural FEA, SolidWorks PDM, Creo Windchill

Programming: Java, MATLAB, Embedded C, C/C++, Python, OpenCV, ROS, Git

Other Experience: CNC and manual machining, Rapid prototyping, GD&T and ANSI drawing standards, Finite element structural analysis, STM32 programming, KiCAD PCB design, Embedded hardware design, DFM of injection molded, sheet metal and machined components, Robotics programming and controls