MAX SONG

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Portfolio: https://max-song-04.github.io/

EDUCATION

The University of Texas at Austin — Mechanical Engineering | *Design and Manufacturing Track* — May 2027
Overall GPA: 3.85/4.0
Relevant Coursework: Statics, Thermodynamics, Solids, Dynamics, Engineering Computational Methods

WORK EXPERIENCE

Texas Inventionworks Makerspace at the University of Texas at Austin – *Student Assistant;* Austin, TX — August 2024 – Present
- Trained 50+ students with hands-on curriculum for manual mill, manual lathe, and SLA and FDM 3D printers
- Developed bolt action pen step-by-step guide with manual mill and lathe to increase student participation with machine shop
- Assisted and advised students on design and manufacturing projects such as 3lb combat robot, RC cars, and DIY ski propeller

Department of Homeland Security – Intern — June 2024
- Placed first in program-wide competition with an airport data integration API resulting in an over 20% increase in made flights
- Implemented researched solutions to Phoenix Sky-Harbor Airport's customs sim increasing operational efficiency by over 10%
- Completed curriculum covering softwares like Arena, Python and topics like ML, AI, operational effiency from industry experts

Song Leather – *Founder;* Houston, TX — December 2020 – Present
- Designed and modeled unique wallet template patterns, tools, and products using Adobe Illustrator and Fusion 360
- Launched and scaled an eCommerce platform on Etsy using 3D printed for rapid prototyping and to streamline production
- Achieved ~3 million views, ~500k likes, ~10k followers across social media platforms and over 20 sales during first fiscal year

ACTIVITIES

Texas Rocket Engineering Lab; Austin, TX — September 2024 – Present
Halycon Mark 1 – Composites Manufacturing Engineer
- Modeled 4ft nose cone mold in Solidworks for carbon fiber composite layups considering design for manufacturing (DFM)
- Designed and cut access ports and laid up fiberglass raceway mounts on rocket skirts for fluid lines carrying LOx and propellant
- Performed composite carbon fiber layups of rocket skirts, couplers, raceway mounts to pass 9600 lbf structural test

Orbital Test Stands – Structures Engineer
- Led modeling of 30+ ft chamber for test stand infrastructure housing for ease of integration and preliminary design review (PDR)
- Developed bolt load calculator using relevant material properties to achieve 190% increase load support with 4x safety factor
- Researched and modeled pressure transducer brackets for fluids monitoring to mitigate excessive vibration from engine testing

Project PL-8 – *Shell Team Engineer* — September 2024 – December 2024
- Modeled vehicle shell panels using Blender to design for assembly (DFA) and design for basalt fiber composite manufacturing
- Accounted for DFM principles when designing shell panels to consider vacuum forming composite molds for layup preparation
- Developed chassis structure integration with shell panels while collaborating with powertrain and electronics for integration

University of Texas Men's Club Volleyball – *Outside Hitter & Setter* — August 2023 – Present
- Implemented comprehensive attendance report substantially improving team attendance, increasing overall player accountability
- Strategically orchestrated team plays as a setter, enhancing team chemistry leading to a number 2 ranking in regional tournaments

SKILLS

Manufacturing: CNC Mill, Manual Mill, Manual Lathe, Laser Cutters, SLA and FDM Printers, Soldering, Composite Layups
Software: CAD (Solidworks, Fusion360, Blender), CAM(Fusion 360), Python, Adobe Illustrator, MATLAB, Arena, Tableau, MS Office

ADDITIONAL INFORMATION

Projects: 4x8 Macropad, 1lb Antweight BattleBot, Spotify API RFID Turntable, Lightbox
Interests: Volleyball, Woodworking, Leatherworking, Poker, Skiing
Languages: Working Proficient in Chinese
Work Eligibility: Eligible to work in the U.S. with no restrictions