

MAX SONG

maxsong@utexas.edu • +1 (832) 660-2931 • [LinkedIn.com/in/maxsongut](https://www.linkedin.com/in/maxsongut)

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

EDUCATION

The University of Texas at Austin	Mechanical Engineering <i>Design and Manufacturing Track</i> Overall GPA: 3.85/4.0 Relevant Coursework: Statics, Thermodynamics, Solids, Dynamics, Engineering Computational Methods	May 2027
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WORK EXPERIENCE

Texas Inventionworks Makerspace at the University of Texas at Austin – <i>Student Assistant</i> ; Austin, TX	August 2024 – Present
<ul style="list-style-type: none">• 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 – Intern	June 2024
<ul style="list-style-type: none">• 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 efficiency from industry experts	

Song Leather – <i>Founder</i> ; Houston, TX	December 2020 – Present
<ul style="list-style-type: none">• 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
<i>Mark 1 – Composites Manufacturing Engineer</i> <ul style="list-style-type: none">• 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	

<i>Orbital Test Stands – Structures Engineer</i> <ul style="list-style-type: none">• 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	
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Project PL-8 – Shell Team Engineer	September 2024 – December 2024
<ul style="list-style-type: none">• 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 – <i>Outside Hitter & Setter</i>	August 2023 – Present
<ul style="list-style-type: none">• 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