Ishan Chhatbar

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Project Portfolio: www.ishan-chhatbar.com| LinkedIn: linkedin.com/in/ishan-chhatbar

SKILLS

Software: SolidWorks • Fusion 360 CAD/CAM• MATLAB • GD&T• Jira • Think-cell • 3DExperience • Confluence

Mechanical: Additive Manufacturing • Laser Cutting • CNC • Metal Forming • DFM • DFMEA • Mechatronics

EDUCATION

The University of Texas at Austin — **Austin, TX**

Bachelor of Science in Mechanical Engineering | Design and Manufacturing Track — **Fall 2020 - Spring 2024**

EXPERIENCE

Tesla Inc. — **Palo Alto, CA**

Technical Program Management Intern — **Fall 2023**

- Established an end-to-end heat-staking process leveraging various teams such as design to define parameters, vendors for machine procurement, and manufacturing for process integration; in addition, fabricated a laser-cut guard using 3DExperience and produced a work process instruction for handoff to NPI technicians.
- Initiated international supplier outreach, securing parts and equipment worth $200,000 from 20+ vendors to support battery module builds and maintain battery engineering lab inventory.
- Leveraged Jira ticketing system to monitor the progress of battery module teardowns, track the status across test runs, and collaborate with technicians to facilitate timely shipment of test builds.
- Organized weekly meetings with abuse test owners, validated design maps, and secured missing components for battery builds to effectively maintain alignment with the test timeline in Jira.

Procter & Gamble — **Cape Girardeau, MO**

Manufacturing Intern — **Summer 2023**

- Spearheaded an initiative to optimize the preparation and delivery of paper towel rolls to the converting line resulting in cycle time reduction by 33% and material losses by 50%.
- Designed a 3D-printed operator toolkit in SolidWorks, adhering to DFM principles to meet 5S production standards.
- Performed root-cause analysis of Bounty plastic wrapping to identify material utilization inefficiencies and adjusted HMI targets across 15 SKUs leading to a projected $60,000 loss prevention.
- Directed a touch reduction initiative by developing a VBA program, successfully identifying and minimizing unnecessary operator interactions, resulting in a significant 10% reduction in total touches per year.

Texas Inventionworks — **Austin, TX**

Projects Lead — **Spring 2022 - Spring 2024**

- Mentored college students on additive and subtractive manufacturing techniques, as well as electronics methods, to enhance their understanding of CAD design and improve the quality of initial prototyping for 250+ projects.
- Performed regulatory maintenance on machinery in a cutting-edge, multi-million dollar engineering makerspace.
- Directed a team of 15 engineers to develop in-house projects through the integration of a project documentation system and organized build nights to educate prospective students on makerspace machinery.

Longhorn Racing Combustion — **Austin, TX**

Powertrain Engineer — **Fall 2021 - Spring 2022**

- Optimized the plenum design in the vehicle's intake manifold by analyzing airflow with Computational Fluid Dynamics (CFD), achieving a 7% reduction in pressure.
- Prototyped iterations of the stub shaft using additive manufacturing methods from PLA and ABS filament for improved alignment.
- Rerouted the hosing of the cooling system pathways for more efficient oil flow to and from the engine.

UT Austin Nanoscale Design and Manufacturing Lab — **Austin, TX**

Undergraduate Researcher — **Spring 2023**

- Modeled 3D-printed iterations of an automated recoating manifold from PLA for a micro SLS printer, achieving nanoparticle ink layers with 1 μm resolution.

PROJECTS

Design of an Intuitive Robot Hand Controller|Electrical Lead — **Spring 2024**

- Engineered the electrical system integrating a hobby servo's internal potentiometer with a motor driver to record trigger movements and implement customized feedback loops in a robotic arm teleoperation controller.

Engineering of a Remotely Controlled Delivery Drone |Team Lead — **Spring 2023**

- Constructed 3D CAD models and performed FEA in SolidWorks on the drone's frame, camera feed, and payload delivery subsystems, incorporating DFMEA to identify potential failure modes.
- Manufactured the subsystems using DFM principles through additive and subtractive methods such as FDM 3D printing and laser cutting.

Machined Vice — **Spring 2022**

- Machined a functional vise using manual mills, lathes, and CNC machinery programmed with Fusion360 CAM toolpath, refining precision manufacturing and GD&T skills in alignment with ASME Y14.5 standards.

UNT Material Sciences Lab |Student Researcher | *Publication* — **Summer 2019**

- Assembled corrosion sensors using metal-formed steel coupons and electrospun PVDF fibers.