

Ridhima Gupta

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Education

University of Texas at Austin B.S. Mechanical Engineering Honors

May 2028

- GPA: 4.0
- Recipient of Virginia and Ernest Cockrell, Jr. Scholarship in Engineering (awarded to <10% of all engineering admits)

Experience

MINIMAX Lab, Department of Mechanical Engineering at UT Austin

Sept 2025 - present

Undergraduate Researcher working under Dr. Fangzhou Xia

- Designed custom CAD experimental setup and executed workflows for an independent research project investigating navigation of magnetic nanoparticles in fluid environments as a model for targeted drug delivery systems
- Developed quantitative analysis pipelines using OpenCV and Python to track particle movement
- Implemented feedback-controlled systems using LabVIEW to modulate electric fields to optimize particle positioning
- Collaborated with other graduate and undergraduate students and presented regularly at research group meetings

Wuest Group Engineering & Surveying

June 2026 - July 2026

Engineering Intern

- Built an internal Slack workflow tool for an 8–10 person engineering team, replacing manual “in-use” messages with a toggle-based resource locking system to reduce version conflicts and coordination friction across shared technical files.
- Redesigned and developed the company website using WordPress, HTML, and CSS, migrating hosting infrastructure to reduce recurring website costs by 40% while improving site usability and maintainability
- Conducted technical due diligence for engineering projects, researching property records, zoning, site constraints, and supporting documentation to synthesize project requirements and prepare responses to 10+ municipal review comments

Longhorn Neurotech

Sept 2025 - present

R&D EMG Subteam Lead

- Led an 8-person R&D subteam to design and prototype an EMG armband sensor array using OpenBCI hardware
- Coordinated experimentation timelines, delegated tasks, and facilitated technical discussions across subteam members

Cockrell School of Engineering, Engineering Student Life

Feb 2026 - present

Student Associate

- Maintained a high standard of accuracy while handling sensitive records and purchases for engineering student organizations
- Improved 20% operational efficiency in the catering process for student organization events

Crisis Text Line Volunteer

Dec 2025 - present

- Provided real-time, text-based support to individuals experiencing crisis
- Trained on and utilized active listening, empathy, and de-escalation techniques to support texters in high-pressure situations

Summer School for Silicon Nanotechnology (SSSiN) at UC San Diego

June 2024 - Aug 2024

Student Researcher working under Dr. Michael Sailor

- Investigated conductivity as an explanation of the blinking mechanism of porous silicon quantum dots through an independent project under a graduate mentor as a part of the quantum dot research subteam
- Developed core laboratory skills including micropipetting, solution preparation, sample handling for silicon etching, under strict safety protocols
- Trained on various instruments used for materials characterization including: FTIR (Fourier Transform Infrared Spectroscopy), Raman Spectroscopy, Dynamic Light Scattering, Scanning Electron Microscopy

Skills

Laboratory Techniques:

- Sample preparation, experimental design, materials characterization
- Experience with FTIR, Raman Spectroscopy, SEM, DLS

Data & Analysis:

- Python (OpenCV, data processing), basic statistical analysis

Tools:

- LabVIEW, SolidWorks CAD, FEA, Microsoft Excel