Sonu K Yadav

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Innovative and hands-on engineering student with a strong foundation in CAD modeling, materials analysis, and thermal systems.

EDUCATION

Bachelor of Science in Mechanical Engineering
Texas State University – San Marcos, TX
Expected Graduation: May 2026 | GPA: 3.6

- Relevant Coursework: Materials Science, Mechanics of Materials, Heat and Thermodynamics, Engineering Design, Statistics
- Member – American Society of Mechanical Engineers (ASME)
- Founder – Texas State Robotics Club

TECHNICAL SKILLS

- **CAD/Modeling**: SolidWorks, Siemens NX, AutoCAD
- **Simulation**: ANSYS Workbench (basic), COMSOL (learning), Excel-based thermal/stress models
- **Programming**: Arduino (C/C++), Python (basic scripting for calculations & graphing)
- **Analysis & Tools**: Excel (DoE, regression, graphing), PowerPoint, Word, Minitab
- **Other**: Mechanical prototyping, design optimization, root cause analysis

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PROJECTS

Thermal Performance Comparison of IC Packages
Self-Initiated Project | July 2025 – Present

- Modeled QFN, BGA, and Flip Chip packages in SolidWorks to analyze geometric differences
- Estimated thermal resistance and heat flow using datasheet values and hand calculations
- Created Excel-based graphs comparing heat dissipation profiles under simulated workloads
- Demonstrated understanding of thermal paths, die attach impact, and package-level limitations

Mechanical Analysis Lab Simulation
Academic Project | Spring 2025

- Conducted mechanical testing on polymer-metal composites under variable thermal loading
- Used regression and Excel tools to evaluate failure points and deformation characteristics
- Applied design of experiments (DoE) to analyze material response patterns

Modular Sensor Housing for Embedded Platform
Texas State Robotics Club | Aug 2024 – May 2025

- Designed and prototyped sensor casing for an embedded robotics project
- Considered thermal dissipation, vibration damping, and mechanical reliability in housing design
- Led a team of 6 students through iterative prototyping and material selection

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LEADERSHIP & INVOLVEMENT

Founder & President – Texas State Robotics Club
Aug 2024 – Present

- Established and led interdisciplinary team focused on robotics, sensors, and embedded systems
- Organized sessions on electronics teardown, PCB housing, and 3D mechanical design