Prashant Bhattarai

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Summary

Mechanical Engineering undergraduate with hands-on research experience in experimental design, advanced manufacturing, and product prototyping. Experienced in translating theoretical concepts into validated physical systems through CAD, additive manufacturing, and structured testing. Brings a methodical, data-driven approach to engineering problems and collaborates effectively in interdisciplinary research environments.

Education

Mississippi State University, Starkville, MS **Class of 2028 (Sophomore)**
Bachelor of Science in Mechanical Engineering
GPA: 4.00 / 4.00
Judy and Bobby Shackouls Honors College; President's List

Technical Skills

Design & Manufacturing: SolidWorks, Fusion 360, Additive Manufacturing (FDM, Resin, Metal), CAM/CNC fundamentals
Programming & Computation: Python, C, C++, Excel (data recording and basic analysis), XFOIL
Research & Experimental: Experimental setup, data collection and cleaning, technical documentation, research presentations, interdisciplinary collaboration

Experience

Product Design Research Intern — USDA REEU: AI2F Program Jun 2025 – Aug 2025
Mississippi State University

- Designed and prototyped a modular AI-enabled field device for real-time wood chip analysis using CAD and additive manufacturing.
- Integrated embedded hardware components including Jetson Nano, camera modules, displays, and power systems.
- Supported deployment of edge-computing machine learning models for offline prediction tasks.
- Presented technical findings at the Summer 2025 Undergraduate Research Symposium.

Undergraduate Research Assistant — Industrial & Systems Engineering Aug 2025 – Present
Mississippi State University

- Researching methods to improve fracture toughness and density of ceramic nanocomposites for additive manufacturing.
- Designed porous lattice structures and conducted microhardness testing.
- Supported laboratory operations, equipment sourcing, and safety documentation.

Undergraduate Research Assistant — ISTVS Student Chapter Feb 2025 – Apr 2025
Mississippi State University

- Investigated GPS/IMU sensor fusion approaches for autonomous vehicle localization.
- Collected and analyzed experimental data from off-road vehicle platforms.

Projects

Leadership & Activities

Formula SAE (Bulldog Motorsports) — Aerodynamics Team Jan 2025 – Present

- Contributed to aerodynamic design and analysis using XFOIL and SolidWorks.

Nepalese Student Association — Leadership Role Apr 2025 – Present

- Organized large-scale cultural and community events, improving student engagement and participation.