SAAD AHMED

Madison, WI

+1-608-622-4876 | saadahmed0133@gmail.com | https://www.linkedin.com/in/saad-ahmed2001/

SUMMARY

Mechanical Engineer with a solid foundation in mechanical systems design, prototype development, and industrial research. Proven ability to optimize systems through CAD modeling in SolidWorks and Siemens NX, supported by hands-on research in hydrogen sensing and lab equipment calibration using LabVIEW and MATLAB. Successfully led academic design projects from concept through functional prototypes, applying FEA analysis and design skills. Skilled in enhancing manufacturing systems and HMI development through internships, demonstrating adaptability in both industrial and academic settings. Eager to leverage cross-functional teamwork, analytical problem-solving, and technical skills to deliver innovative engineering solutions.

EDUCATION

UNIVERSITY OF WISCONSIN, MADISON, WI — Dec 2024

BACHELOR OF SCIENCE, MECHANICAL ENGINEERING

- Coursework: **Capstone Project (HarvestCart+)** - Led CAD design of a lightweight, cost-effective two-wheel farm cart. Conducted force and fatigue analysis using SolidWorks FEA and verified with mathematical calculations. Built a functional prototype for the client. **Product Design** – Designed a wheelbarrow using concepts of user-centered design. Conducted user research, ideated concepts and presented prototypes for potential designs. **Injection Molding Simulation** - Designed a part, optimized runner systems, and analyzed molding parameters to determine ideal industrial conditions. Documented findings in a report.

WORK EXPERIENCE

University of Wisconsin-Madison Department of Mechanical Engineering — Mar 2025 - Present

RESEARCH INTERN — *MADISON, WI*

- Conducted hydrogen sensing research at UW–Madison by collecting weather and hydrogen data in LabVIEW using electromechanical sensors and analyzing results using MATLAB to support the development of a reliable hydrogen leak detection system for industrial applications.
- Assisted senior capstone teams by setting up lab equipment and conducting preliminary system diagnostics, demonstrating strong spatial skills and the application of mechanical design understanding.
- Assisted with development of a small laser enclosure using 3D printing to create prototypes and essential structural pieces ensuring quality and strength requirements were met.

University of Wisconsin-Madison Department of Mechanical Engineering — Jul 2024 - Dec 2024

LAB ASSISTANT — *MADISON, WI*

- Collaborated with faculty and TAs to enhance lab modules by incorporating feedback, thereby improving student comprehension of complex mechanical concepts and experimental design.
- Calibrated and validated strain gauges and thermocouples using LabVIEW, ensuring precise data collection and adherence to rigorous verification testing protocols.
- Revised lab manuals and configured LabVIEW-enabled equipment along with hardware test benches, reinforcing systematic technical documentation and operational efficiency.

AUTOMATE PAKISTAN — Jul 2023 - Aug 2023

ENGINEERING INTERN — *SUKKUR, PAKISTAN*

- Collaborated with a mentor to upgrade mechanical systems in a biscuit production line, optimizing gear ratios for variable-speed motor integration
- Designed and prototyped a custom motor-holding fixture to enhance machine stability and reduce vibration during high-speed operation
- Developed a Human Machine Interface (HMI) panel using Cotrust MagicWorks to control motor behavior and streamline operator interaction

SKILLS AND INTERESTS

- **CAD & Modeling**: SOLIDWORKS, Siemens NX, 3-D CAD Modeling
- **Programming & Analysis**: Java, Python, LabVIEW, MATLAB
- **Manufacturing & Fabrication**: Casting, Welding, 3D Printing, Machining, CNC
- **Engineering Fundamentals**: Mechanical Engineering, Product Design, Engineering Drawings, FEA, GD&T
- **General Software**: Microsoft Office