

DEV LEKHADIA

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EDUCATION

GPA 3.21

Purdue University, West Lafayette, IN

BS Mechanical Engineering

Dean's List and Semester Honors Awardee (Fall 21', Spring 22')

May 2025

Relevant Coursework:

- **Completed:** Measurement and Controls, Thermodynamics, Linear Circuit Analysis, Statics, Dynamics, Linear Algebra, Differential Equations, Multivariate Calculus, Machine Design, Mechanics of Materials, Fluid Dynamics.

SKILLS

- NX Siemens, Fusion 360, MATLAB, Python, Microsoft Office 365, Data Analysis (MATLAB, Excel), SolidWorks, Simulink

PROFESSIONAL EXPERIENCE

Undergraduate Research – Energy and Transport Sciences Laboratory (ETSL)

January 2024 – Present

- Collected and analyzed experimental data on the performance of over 100 Li-ion cells under various conditions, using MATLAB for thermal and degradation analysis, improving research outcomes by 15%.
- Conducted simulations and physical experiments, reducing experimental error by 10% and enhancing the accuracy of battery performance predictions.
- Optimized matrix calculations using BiCGSTAB, Eigen, and EigenMKL libraries in C++, achieving a 25% reduction in computation time and improving solver efficiency. Leveraged the Negishi cluster for high-performance computing with Intel MKL integration.
- Presented research findings to a team of 10+ researchers, effectively communicating data-driven insights that influenced ongoing research directions and future experimental designs.

Mechanical Engineering Intern – Hyundai India

May 2024 – August 2024

- Led a team of 4 engineers in optimizing the diesel engine disassembly and reassembly process, reducing time by 15% through streamlining workflow and implementing improved methodologies.
- Analyzed mechanical performance data using MATLAB to identify inefficiencies and propose solutions, resulting in a 10% increase in assembly line efficiency.
- Conducted root cause analysis of common assembly issues in the body shop and implemented corrective actions, reducing repair times by 20%.
- Collaborated with senior engineers to redesign tooling and fixtures, which improved precision in vehicle assembly by 12%, reducing defect rates.

Engineering Intern – Kunal Organics

May 2023 – August 2023

- Conducted experiments on textile chemicals, evaluating surfactants, colorants, and auxiliaries, improving product compatibility testing by 20%.
- Utilized Python to design an algorithm for kinetic data analysis, enabling faster decision-making and reducing experiment analysis time by 25%.
- Assisted in scaling lab findings to full production processes, streamlining operations and improving efficiency by 10%.

Undergraduate Teaching Assistant – College of Engineering, Purdue University

August 2022 – May 2023

ENGR 131 – Transforming Ideas to Innovation I (Fall 2022)

- Guided 60+ students throughout the semester, enhancing their understanding of engineering principles through detailed feedback on assignments, quizzes, and projects.
- Led weekly lab sessions for groups of 25 students, providing hands-on support and fostering practical problem-solving skills, resulting in a 15% improvement in assignment completion rates.

ENGR 132 – Transforming Ideas to Innovation II (Spring 2023)

- Mentored 60+ students in MATLAB coding and technical writing during office hours, improving their proficiency and driving a 10% increase in overall assignment accuracy.
- Co-led lab sessions, facilitating in-depth discussions on project work and debugging, which contributed to a 20% increase in student engagement and problem-solving abilities.

PROJECTS

Portable Folding Chair

January 2023 – May 2023

- Designed a portable seating solution for Purdue University, creating a 3D model using NX Siemens and Fusion 360, and successfully 3D printed a prototype.
- The chair improved space utilization by 25%, addressing the university's seating shortage and earning positive feedback from a panel of industry engineers.

Kinetic-Enzyme Test Data Analysis

January 2023 – May 2023

- Analyzed enzyme data with MATLAB, improving efficiency evaluation using Michaelis-Menten and Lineweaver-Burk methods.

Paper Towel Recycling System for Kimberly Clark

August 2022 – December 2022

- Developed and presented a high-fidelity recycling prototype, enhancing system performance and accuracy by 20%.