

Manas Kathuria

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EDUCATION

Purdue University, West Lafayette, Indiana

Expected Graduation Dec 2027

BS in Mechanical Engineering; Minor in Economics, AI and ML Dean's List – GPA: 3.85/4.0

Relevant Coursework:

- Applied linear regression to model reservoir discharge rates, forecasting capacity utilization and system performance trends
- Modeled non linear cruise control dynamics in MATLAB to evaluate tire degradation impacts on operational reliability
- Designed and simulated airfoils with varying cambers in CAD to assess and teach their aerodynamic performance
- Built microcontroller embedded systems including an SOS alert device and an ultrasonic reverse parking sensor (Arduino)

EXPERIENCE

Purdue University, Undergraduate Researcher, West Lafayette, Indiana, USA

Digital Video Learning Environments for Statistics Education

Aug 2024 – Present

- Led 30+ structured interviews and coded behavioral datasets to identify statistically significant learning performance drivers
- Performed meta analysis across 35+ AR based studies to quantify outcome improvements and reduce process variability
- Built analytical frameworks that converted qualitative behavior into measurable gesture indicators for system optimization

Purdue Lilly Research Center, Pharmaceutical Researcher, West Lafayette, Indiana, USA

Pharmaceutical researcher with Eli Lilly

Aug 2025 – Dec 2025

- Designed microfluidic test platforms to evaluate fluid transport efficiency under controlled flow rate and pressure conditions
- Conducted fluorescence based experiments to measure drug diffusion and delivery uniformity across multiple test cycles
- Generated quantitative datasets to validate experimental repeatability and improve reliability of therapeutic transport models

CDM Smith, Mechanical Engineer Intern, Dubai, UAE

Jun 2025 – Jul 2025

- Coordinated mechanical designs, site inspections, and client deliverables across nationwide gas station infrastructure projects
- Customised AutoCAD pump layouts optimizing piping, equipment spacing, and maintenance access for large communities
- Applied UAE Fire Code and safety standards to mechanical systems, ensuring regulatory compliance and hazard mitigation

University of Bath, Summer Research Assistant, Bath, UK

Jul 2023 – Aug 2023

- Selected among 20 international students to undertake in vitro wet-lab research quantifying anti-proliferative effects of diverse compounds on HeLa cancer cell lines
- Analyzed microscopy datasets to validate experimental consistency and identify sources of process variation and failure

LEADERSHIP EXPERIENCE

Shreve-hart Racing Team, West Lafayette, Indiana

August 2025 – Present

- Diagnosed mechanical failures across two racing karts, restoring drivetrains and braking systems to race ready condition
- Performed scheduled maintenance, part replacement, and mechanical inspections to improve reliability during competition

Student Soybean Innovation Competition, West Lafayette, Indiana

September 2024 – March 2025

- Designed a scalable manufacturing process for a consumer product, including cost modeling, throughput, and material flow
- Led market analysis and pricing strategy to achieve profitable unit economics under simulated production constraints

Purdue Aviation/Space Day, West Lafayette, Indiana

Oct 2024– Present

- Managed logistics and safety for 1,500+ visitors across seven hands on activity stations in a high traffic environment

International Asteroid Discovery Project, Researcher, International

April 2021– April 2024

- NASA recognized Provisional Discoverer of Asteroid “**2021 GE137**”

SKILLS

- *Technical Skills*: Python, MATLAB, C, C++, AutoCAD, NX, Fusion360, Arduino, PCB Design, Embedded Systems, Data Analysis, CAD Layouts
- *Operations and Engineering Skills*: Reliability Modeling, Process Optimization, Preventive Maintenance Design, Safety Compliance, Root Cause Analysis
- *Languages*: (Fluent:) English, Hindi, Urdu; (Limited Proficiency:) Arabic, Spanish, French