

# Manas Kathuria

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## EDUCATION

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**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

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**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

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**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

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- *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