

# Mohit Manna

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## EDUCATION

Purdue University	May 2027
BS Computer Engineering	Minor: Math & Finance
- <b>Coursework:</b> Advanced Circuits · Data Structures · System Design	
- <b>Organizations:</b> Vertically Integrated Projects · Data Mine (CAT) · Embedded Systems	

## EXPERIENCE

Caterpillar   <i>Data Science Researcher</i>	<i>Aug 2025 – Present</i>
• Built decoder transformer (PyTorch) to forecast equipment demand, boosting prediction accuracy by 15%	
• Lowered ML model latency by 10% by engineering automated data pipelines (Python & SQL)	
• Visualized CAT KPIs through a Power BI dashboard, cutting analyst workload by ~6 hours weekly	
Purdue Stack   <i>Software Developer</i>	<i>Sep 2024 – Present</i>
• Optimized TA-course matching engine with OR-Tools, boosting match quality for 30 math sections	
• Designed REST APIs and a normalized PostgreSQL schema for TA intake, supporting 200 TAs/semester	
• Integrated CSV exports, and batch notifications to enable one-click reviews, reducing latency by 10%	
MySphere   <i>Software Developer Intern</i>	<i>Jun 2025 – Aug 2025</i>
• Implemented an AI speech-to-text prompt with intent routing, increasing task completion by 310 users	
• Streamlined Express APIs for profile authentication and JWT signing, raising sign-in success by 1200+ sessions	
• Shipped optimized React Native layouts that reduced average taps per task for seniors by 20%	
Creative Capital   <i>Software Engineer Intern</i>	<i>Mar 2025 – Aug 2025</i>
• Automated investor onboarding with Node & SendGrid workflows, cutting verification time by 25%	
• Deployed Supabase APIs with auth + Row-Level security, reducing query latency by 240 ms	
• Delivered an investor dashboard to enable self-serve updates and reduce preprocessing time by 35%	

## PROJECTS

Backend Engineer – <i>Google Developer Group</i>	
• Architected a Chrome Extension to scan calendars for tasks and automate reminders, used by 200+ students	
• Added background sync with smart desktop alerts, reducing manual tracking time by 30%	
Firmware Engineer (BB-8 Robot) – <i>Embedded Systems Club</i>	
• Implemented C firmware for microcontroller units, increasing wireless communication range by 12 meters	
• Developed interfaces to bridge drivetrain and sensors, enabling 40 synchronized robot actions/min	
Python Researcher – <i>Integrated Photonics Lab</i>	
• Engineered an automated ETL pipeline (10,000+ waveguide simulations) to reduce analysis time by 18%	
• Awarded 1st place out of 200 participants at Purdue Research Symposium for waveguide processing framework	

## SKILLS

- **Languages:** Python · TypeScript · Java · C/C++ · SQL · R
- **Frameworks:** React · Next.js · Django · Express.js · MongoDB · Flask
- **Tools:** Git · Docker · AWS/Azure · Firebase · Kubernetes · Jenkins · Vercel