

# Mohit Manna

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## EDUCATION

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### Purdue University

May 2027

BS Computer Engineering

Minor: Math & Finance

- **Coursework:** Advanced Circuits · Data Structures · System Design
- **Organizations:** Vertically Integrated Projects · Data Mine (CAT) · Embedded Systems

## EXPERIENCE

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### Caterpillar | *Data Science Researcher*

Aug 2025 – Present

- 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 | *Software Developer*

Sep 2024 – Present

- 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 | *Software Developer Intern*

Jun 2025 – Aug 2025

- 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 | *Software Engineer Intern*

Mar 2025 – Aug 2025

- 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

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### Backend Engineer – *Google Developer Group*

- 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) – *Embedded Systems Club*

- 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 – *Integrated Photonics Lab*

- 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

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- **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