

Mohit Manna

tinyurl.com/mohit542 | linkedin.com/in/mohit542 | github.com/MohitManna-2006

EDUCATION

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

Caterpillar | Data Science Researcher

Aug 2025 – Present

- Improved CAT's supply-chain forecast accuracy by 15% by training a multi-horizon transformer model
- Reduced demand-forecasting model latency by 10% via a PyTorch pipeline with vectorized preprocessing
- Reduced CAT analysts' manual reporting time by 6 hours/week with a SQL-backed Power BI sprint dashboard

Purdue Stack | Software Developer

Sep 2024 – Present

- Deployed a rate-limited Flask backend to automate assignments for 200+ TAs, replacing manual spreadsheets
- Designed PuLP-based TA-course scheduling model for conflict-free staffing across 30 math sections
- Secured admin portal with stateless JWT auth and RBAC, centralizing access control across 6 departments

Creative Capital | Software Engineer Intern

Mar 2025 – Aug 2025

- Automated Node + SendGrid onboarding workflows, reducing manual investor verification time by 25%
- Deployed Supabase APIs with row-level security, reducing average query latency by 240 ms
- Built React dashboard views for investor profiles and recommendations, used by 100+ accounts

MySphere | Software Developer Intern

Jun 2025 – Aug 2025

- Implemented speech-to-text workflow using Express, increasing task completion for 300 users
- Refactored Express auth APIs with JWT middleware, raising successful sign-ins by 1,200+ sessions
- Optimized React Native screens intended for senior citizen users, reducing taps per task by 20%

PROJECTS

Backend Engineer – Google Developer Group

- Architected a Chrome Extension to school 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, boosting wireless communication range by 4 meters
- Developed drivetrain-sensor interface for motion control, enabling 40 synchronized robot actions/min

Python Researcher – Integrated Photonics Lab

- Developed automated Python ETL pipeline for 10,000+ waveguide simulations, cutting analysis time by 18%
- Awarded 1st place of 200 at Purdue Research Symposium for 99.7%-accurate waveguide efficiency simulations

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