Mohit Manna

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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***

- Built REST APIs to generate TA assignments for 200+ TAs across 30 math sections
- Shipped a weighted matching engine for TA scheduling, cutting 3+ hours of manual work
- Secured admin access control with JWT auth and role-based permissions for 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