

## Education

2021-2025 | B.Tech. in *Industrial & Systems Engineering* - Indian Institute of Technology, Kharagpur  
CGPA | 8.46

## Experience

- **Software Engineering Intern | AWSMO** Apr '24 - Present
  - Streamlined ML workflow, achieving **55% faster execution** & **50% greater scalability** with **AWS Batch** & **CloudFormation**
  - Enhanced **deployment efficiency by 100%** through **CI/CD pipelines** and **unit tests covering  $\approx 80\%$**  of the code base
  - Identified **17 bottlenecks** across all services via a **benchmarking framework** written in **Golang, Python, and Terraform**
  - Optimized **time series data parsing by 40%** by implementing efficient business logic in the **Django REST Framework**
  - **Reduced service downtime by 30%** via **post-deployment health checks** & **rollback mechanisms** in *deployment pipelines*

## Projects

- **Naarad | Golang, Python** Jun '24 - Jul '24
  - Deployed a **student-run noticeboard service** for IIT Kharagpur community, serving **over 7000 daily active users**
  - Managed deployment on **Digital Ocean** with **Docker**, leveraging **GitHub Actions** for **CI/CD**, scaling for over **15,000** users
  - **Reduced unauthorized access attempts by 30%**; **OTP** and **nginx** rules restrict *only sign-up/sign-in* to the **campus network**
  - Integrated with **MFTP**, delivering students **real-time placement portal notices**, with a delivery **delay of under 3 minutes**
- **ApnaInsti | Django, AWS** Jan '24 - Feb '24
  - Published an **official mobile app** for **IIT KGP**, increasing **student involvement by 30%** in institute-organized activities
  - Orchestrated deployment on **AWS EC2**, utilizing **CodeDeploy** & **CodePipeline**, scaled for **10,000+** users with **AWS ECS**
  - Built features: **travel share** and **buy/sell portal**; led a team of **10 developers**, developing in **Django** and **React Native**
  - Engineered a **real-time scoreboard** feature, serving **5000+ concurrent users**, using **Golang, PostgreSQL** & **WebSockets**
- **Metahub | C, Bash, Linux Utilities** Jan '23 - May '23
  - Revamped a **PtokaX** based **Direct Connect** Hub exclusive to IIT Kharagpur, improving the **setup efficiency by 80%**
  - Resolved compilation errors & a ban functionality bug, **increasing server stability by 90%** & ensuring a smooth installation
  - Created automation and monitoring scripts, with a **95% up-time**, and set up **fallback** for uninterrupted server availability
- **GSYNC | Bash, Linux Utilities** Apr '22 - May '22
  - Developed a CLI tool for **real-time file & folder synchronization** from *local to remote git repositories*, with **100% efficiency**
  - Implemented **8 service functionalities** - *start, stop, status, restart, enable, & disable*, with innovative **selective start/stop**
  - Elevated user experience & ease of use through efficient troubleshooting by **40%** & intuitive **colored logs management**

## Achievements

- **Inter-IIT Tech Meet 12.0 | Contingent Gold** Nov '23 - Dec '23
  - Secured *first place for the third consecutive time*, contributing to **cloud architecture, blockchain, and backend** tech stack
  - Patched an **Aptos library** bug & engineered a **novel Metamask Snap** allowing *transacting Aptos coin* via **Metamask Wallet**

## Positions of Responsibility

- **Maintainer | Metakgp, IIT Kharagpur** Aug '23 - Present
  - Developed and maintained **over 20 open-source projects** for IIT Kharagpur students, easing out various stressful processes
  - Published **IQPS**, a **Golang, PostgreSQL**, and **Svelte** app, hosting **500+ question papers** over **19 years** with **vector search**
  - Deployed **Kronos**, a web app in **Python** that collects and analyzes **12,500+ records**, providing detailed **grade distributions**
- **Advisor, FOSS United Club Lead | Kharagpur Open Source Society, IIT Kharagpur** May '22 - Present
  - Organised **over 15 workshops**, promoting and advocating the adoption of **open-source software** amongst the students
  - Organised **Kharagpur Winter of Code**-( '22 and '23), inspired by *Google Summer of Code*, with **1.2k+** and **2.5k+** participants
- **Technology Coordinator | Technology Students' Gymkhana, IIT Kharagpur** Jul '23 - Jul '24
  - Oversaw **technological advancements** at IIT Kharagpur; assisted in resolving **over 200** student complaints every month
  - **Reduced build size of site by 90%**, *migrating static data* to **PostgreSQL** using automated **BASH** & **Python** scripts efficiently
  - Migrated from **AWS** to **on-premise server**; leveraged **Proxmox** for **3-layered system design** and *novel CI/CD pipelines*

## Technical Skills

Languages	Python, Golang, Bash, TypeScript, JavaScript
Frameworks	Django, Flask, Go-Fiber, Node.js, Metamask Snaps
DBMS	PostgreSQL, MongoDB, MySQL
DevOps	Networking, Linux Administration, Docker, Nginx, Apache Web Server, Cloudflare, Terraform, Amazon Web Services (AWS), Digital Ocean (DO), Jenkins, Argo CD, YAML, GitHub Actions