

Academics

2021-present CGPA	B.Tech. in <i>Industrial & Systems Engineering</i> - Indian Institute of Technology, Kharagpur 8.46
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Experience

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

Awards

- Inter-IIT Tech Meet 12.0 | Contingent Gold**
 - Secured overall *first place*, **consecutively for the third time**, in the Inter-IIT Tech Meet 12.0 as a team held by IIT Madras
 - Participated in **3 events** as a developer in the team, working on **blockchain**, **cloud systems architecture**, and **backend**
 - Patched an **Aptos library** bug & developed a **novel Metamask Snap** allowing *transacting Aptos coin* via Metamask Wallet

Projects

- ApnaInsti | Python, AWS**
 - Developed an **official mobile app** for IIT Kharagpur, centralizing academic events and integrating exclusive features
 - Managed deployment on **AWS EC2** with **RDS** & **Docker**, utilizing **CodeDeploy** & **CodePipeline**, scaling for **10,000+** users
 - Built features: **travel share** & **buy/sell portal**; led a team developing **Django REST backend** & **React Native frontend**
 - Implemented **real-time scoreboard** feature for GC using **Go** and **WebSockets**, deployed as micro-services in **Docker**
- Naarad | Golang, Python**
 - Developed a **student-run noticeboard service** for IIT Kharagpur community, serving **over 7000 daily active users**
 - Managed deployment on **Digital Ocean** with **Docker**, utilizing **GitHub Actions** for **CI/CD**, scaling for over **15,000** users
 - Implemented **OTP** verification via **institute email**, **JWT**, and **nginx** rules, allowing access only to IIT Kharagpur students
 - Integrated with **MFTP**: delivering students **real-time placement portal notices**, ensuring no missed critical deadlines
- Metahub | C, Bash, Linux Utilities**
 - 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
 - Developed automation & monitoring scripts, with a **95% up-time**, & set up **fallback** for uninterrupted server availability
- GSYNC | Bash, Linux Utilities**
 - Developed a CLI tool for **real-time file & folder synchronization** from *local to remote git repositories*, focusing on *dotfiles*
 - Implemented **service functionalities** - *start, stop, status, restart, enable, & disable*, with innovative **selective start/stop**
 - Elevated user experience and ease of use through efficient troubleshooting and intuitive **colored logs management**

Positions of Responsibility

- Technology Coordinator | Technology Students' Gymkhana, IIT Kharagpur**
 - Oversaw **technological advancements** at IIT Kharagpur; assisted in resolving **over 200** student complaints every month
 - Maintained **ApnaInsti app**, **Gymkhana Website**, **Blogs** using **Ghost**, **Technology Noticeboard** & **Certificate Generator**
 - Migrated from **AWS** to **on-premise server**; leveraged **Proxmox** for **3-layered system design** and *novel CI/CD pipelines*
- Maintainer | Metakgp, IIT Kharagpur**
 - Developed and maintained **over 20** critical **open-source projects** for IIT KGP students, easing out stressful processes
 - Projects include: **Wiki**, **Metaploy**, **ERP login package (python)**, **Kronos**, **GYFT**, **GYFE**, **WIMP**, **IQPS**, **Heimdall**, **Metahub**
- Advisor, FOSS United Club Lead | Kharagpur Open Source Society, IIT Kharagpur**
 - Organised **multiple 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

Technical Skills

Languages	Python, Golang, Bash, TypeScript, JavaScript
Frameworks	Django, Flask, Go-Fiber, Node.js, Metamask Snaps, Hyperledger Fabric
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