

Academics

2022-present	B.Tech. + M.Tech. in <i>Mechanical Engineering</i> - Indian Institute of Technology, Kharagpur
CGPA	8.22

Awards

- InterIIT Tech Meet 13.0 | Contingent Gold**
 - Secured overall **first place consecutively for the fourth time** in the InterIIT Tech Meet 13.0 as a team held by IIT Bombay
 - Participated in **2 events** as a developer in the team, working on **backend, cloud systems architecture** and **frontend**
 - Developed novel applications using **noVNC and Replicate**; **Leveraged Next API** to recieve images into frontend
 - Implemented **CI/CD** automation for custom-built backends supporting two major events, enabling continuous delivery

Projects

- duobrain app | Next js, Node js, Typescript, MongoDB, Vector Search**
 - Developed **official web app for Production** centralizing your important links, youtube videos, tweets, and much more
 - Managed Integration of **Hugging Face Transformer** with **Node js, MongoDB & Typescript**, implementing **Vector Search**
 - Built features: **Add content & Delete Content**; Handled the backend though **Node + Express REST & Next JS frontend**
 - Constructed the **Share Brain Feature** and its **system design** and **UI design**, driving the process for Sharing Content
 - Implemented **JWT Authentication** for Secured Signup and Login using **JWT, Axios Library** and proper **Status Codes**
- Movix Prime | React, NodeJS, Express, MongoDB, AWS, Docker**
 - Developed **official Web App for GC Opensoft** centralizing authentication, search, video playback and other features
 - Managed deployment on **AWS EC2** for backend and **vercel** for frontend
 - Controlled **HLS Adaptive Video Streaming** through **AWS S3 Bucket** utilising **ffmpeg commands** in **Docker** Containers
 - Built features: **sematic search & fuzzy search**; worked in a team developing **Express REST backend & React frontend**
 - Constructed the **authentication components** and oversaw system and UI design, and drove the overall technical process.
 - Implemented **subscriptions model** feature using **React, Node** and **Express** and the checkout page using **RazorPay**
- Code Pusher | Typescript, Git, VSCode**
 - Developed for VSCode Users, streamlining periodic **comitting and Pushing of code** to their Remote Github Repositories
 - Provided convenient installation by making the tool readily available on **Visual Studio Code Marketplace** and **Github**
 - Implemented maintaining a **log file** of the commits and pushes, guaranteeing a record of the changes with date and time
 - Integrated **VS Code keybindings**, optimizing the **starting and stopping of commits**, and finally Pushing code to Github
 - Integrated an **Configuration based Input**, enabling users to set the **gap** between commits and **Remote Alias and Branch**
- Chip 8 Emulator | C++, SFML, Make**
 - Developed an Emulator for the **Chip-8 Virtual Machine** using **C++** and **SFML Graphics Library** and packaged into an exe
 - Implemented a **Virtual Monitor, Keyboard, Speakers**, and **Virtual CPU** in C++ and **STL Library** and Using OOP principles
 - Implemented the exact opcodes and memory management as provided in the **Chip 8 Technical Reference** using STL

Positions of Responsibility

- Development Head | Developers' Society, Technology Students' Gymkhana, IIT Kharagpur**
 - Oversaw **technological advancements** & led a **tech team of developers** at IIT Kharagpur; maintaining multiple projects
 - Assisted in developing and maintaining the **website** of the Society and helped nurture development culture in the campus
 - Assisted Technology Student's Gymkhana in conducting offline seminars and hackathons related to Software Development

Technical Skills

Languages	Golang, Python, Bash, Typescript, JavaScript, C/C++, HTML, CSS
Frameworks	Go-Fiber, Flask, Django, Node.js, Express.js
DBMS	PostgreSQL, MongoDB, MySQL
DevOps	Computer Networking, Docker, Nginx, Linux System Administration, Amazon Web Services (AWS), Redis, Github Actions
OS Platforms	Linux 5/6 (Ubuntu) & Windows 7,8,10,11
Competitive	Competitive Programming, Data Structures and Algorithms, Leetcode 250+ Problems
Others	Git, GitHub, Backend Development Methodologies, Web Browser Extension Development, VS-Code Extension Development, Object Oriented Programming, Computer Architecture, Com- piler Design and Operating Systems