Pursuing a **Minor** in the Department of **Computer Science & Engineering**, IIT Bombay

SCHOLASTIC ACHIEVEMENTS

- Conferred a department rank of **6** among **155** students in the Department of Chemical Engineering ('23)
- Received **AP grade** in Mass Transfer II awarded to top **2/155**, indicating exemplary academic performance ('23)
- Achieved AIR of **1409** in JEE Advanced and **99.75** percentile in JEE Mains (**1.1 million+** candidates) ('20)
- Recipient of **KVPY fellowship** with **AIR 1213** out of 0.1 million applicants awarded by Govt. of India ('19)
- Secured the prestigious **NTSE** scholarship awarded by NCERT to the top **0.1%** out of 1 million applicants ('18)
- Selected among the top **25** students from Kerala to write Indian National Mathematical Olympiad (**INMO**) ('17)

PUBLICATIONS

- Confirmation of **COMET C/2022 N1**, MPEC 2022-N47, **K. A. Krishna**, V. Swain, H. Kumar, R. Norboo, V. Bhalerao, et al. (8 July 2022). The **International Astronomical Union** Minor Planet Center.
- Confirmation of **Asteroid 2022 MY2**, MPEC 2022-M106, **K. Adithya Krishna**, V. Swain, H. Kumar, R. Norboo, V. Bhalerao, et al. (30 June 2022). The **International Astronomical Union** Minor Planet Center.

PROFESSIONAL EXPERIENCE

Automated Performance Monitoring System | *Adobe* (May '23 - Jul '23)
*Created a **microservice** to detect performance regressions and provide root cause analysis (RCA) for **Adobe Sign***
- Ideated and tracked **10+** custom non-conventional performance metrics using **New Relic** and **AOP** in SpringBoot
- Leveraged binary search, **Splunk** and GitHub APIs to find the exact root cause **commit** of performance regressions
- Designed an alert creation system with automatic discovery of new API paths using New Relic's **GraphQL** APIs
- Developed an intuitive dashboard using **ReactJS** to display performance regression details and root cause analysis

Modelling AICC Temperature & Pressure | *Atomic Energy Regulatory Board* (Dec '21 - Jan '22)
*The project aimed to perform a risk assessment from **hydrogen explosion** for the reactor containment building*
- Built an AICC model based on fundamental energy balance after extensively corroborating with **industrial** data
- Computed **safe** threshold concentrations of H_2, D_2 and CO in a containment building during nuclear accidents

KEY PROJECTS

SEC Filing Analyzer | *Inter IIT Tech Meet 10* (Mar '22)
*Part of 9 member team which bagged the **silver medal** among **10 IITs** by creating an intuitive financial dashboard*
- Explored the **5** key financial metrics indicating health of **SaaS** companies and extracted them from SEC filings
- Deployed a pipeline to extract financial statements from **10-K** and **10-Q SEC filings** from the EDGAR database
- Created an API service to store and serve this financial data optimized for **speed** using **FastAPI** and **MongoDB**

Mess-i | *DevCom, IIT Bombay* (Oct '21 - Present)
*Brainstormed and implemented a platform to digitalize mess management in **10+** hostels serving **10,000+** people*
- Ideated and deployed an API service using **MongoDB** & **Flask** to store and serve mess data saving **4000+** hours
- Designed a caching system with **HiveDB** in Flutter for offline functioning and syncing data using multi-threading

Resobin | *DevCom, IIT Bombay* (May '22 - Present)
*A one-stop online platform for reviews and resources on **4000+** courses catering to **10,000+** students in IIT Bombay*
- Collaborated with Student Support Services to include minors and honors reviews increasing page visits by **four-fold**
- Improving response time through the creation of **indexes** in **MySQL** based on insights generated by **New Relic**
- Crafted an efficient filtering system on **ReactJS** to distribute exam resources for **1500+** freshmen for **10+** courses

Telescope Archiver | *Prof Varun Bhalerao, Dept. of Physics* (Dec '21 - May '22)
*Developed and deployed an intuitive image query interface with **Django**, **VueJS** and **NGINX** for easier data analysis*
- Created a **SQL** database of astronomical data of **40,000+** images taken by Growth-India Telescope, Ladakh
- Optimized the searching for equatorial coordinates in **40,000+** images by leveraging the **HEALPix** system

OTHER PROJECTS

DigiPad | *DevCom, IIT Bombay* (Jun '21 - Sept '21)
- Ideated an app to write on a desktop with a homemade stylus and smartphone for easier teaching in online mode
- Built a service using **sockets** to send data from the mobile app to the desktop application with **minimal latency**
- Designed, tested and deployed a cross-platform mobile app in **Flutter** to detect finger movements and gestures

Introduction to MLOps | *Learner's Space, Web & Coding Club and UGAC* (Jun '21 - Jul '21)
- Created an ML pipeline with **PyCaret** & **MLFlow** and trained the Credit Card Fraud dataset, **F1 score 76%**
- Deployed the trained models on Amazon Web Services (**AWS**) and served the models in real-time using **FastAPI**

DIY FaceApp | *Seasons of Code, Web & Coding Club* (May '21 - Jul '21)
- Trained CIFAR-10 image classification dataset with CNN using the LeNet architecture with **61% test accuracy**
- Trained a **DCGAN** and **WGAN** on the MNIST dataset to generate hand-written images of numbers in PyTorch

POSITIONS OF RESPONSIBILITY

Overall Coordinator | *DevCom, IIT Bombay* (Apr '23 - Present)

*DevCom is a community of developers & designers maintaining **critical** digital infrastructure such as InstiApp, Mess-i*

Leadership	• Spearheaded a team of **30+** student developers to build and maintain **10+** critical digital services
Initiatives	• Incorporating logging system and **APM** management leveraging **ELK** stack and **New Relic** • Increased installations by **33%** and social media outreach by **1.9x** through innovative content
Management	• Adopted **Agile** project management system to streamline and accelerate development and release • Organising **10+** hours of knowledge transfer sessions and documentation to enhance team skills

Institute System Administrator | *IIT Bombay* (May '23 - Present)

*Leading a committee of **15+** Hostel System Administrators to ensure **24/7** internet connectivity across campus*
- Maintaining the Gymkhana servers with **50+** websites and critical services for **10,000+** residents of IIT Bombay
- Developed scripts and curated documentation to raise awareness about network usage and resolve issues effectively

MENTORSHIP

ISMP Mentor | *Student Mentorship Program* (May '23 - Present)

*Selected in a team of **143** of **386** applicants through a rigorous procedure consisting of peer reviews and interviews*
- Responsible for ensuring a smooth transition of **10** incoming freshmen and their academic and overall development
- Received comprehensive training on essential mentorship skills from a certified **CBT-REBT** therapist and trainer

Mentor | *Department Academic Mentorship Program* (May '22 - Present)

*Selected in a team of 40 of 98 applicants to mentor **150+** students based on rigorous interview process and peer reviews*
- Mentored **6 second-year** chemical engineering students catering to their academic needs and co-curricular endeavors
- Curated branch change experiences for the **D-AMP blog** to aid freshers in deciding to apply for branch change

Teaching Assistant | *CS101, Prof Ajit Rajwade* (Nov '22 - Feb '23)
- Proctored **10+** programming labs and exams and conducted **10+** hours of help session for academically weak students

TECHNICAL SKILLS

Languages	C++, Python, Java, Javascript, Dart, Git, LaTeX, MATLAB, GNU Octave
Development	Angular, VueJs, ReactJS, Django, Flask, MySQL, MongoDB, Flutter, Android Studio, AWS
ML & AI	PyTorch, MLFlow, Tensorboard, Scikit-learn, DVC, Pandas, PyCaret
MOOCs	• **Financial Markets** (Yale University, Coursera) • Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization • Structuring Machine Learning Projects (part of **Deep Learning Specialization** by DeepLearning.AI and Andrew NG)

EXTRACURRICULAR ACTIVITIES

University Debating	• Represented India in **5** int'l tournaments (Yale IV, UADC Bali) | **400+** participants | **10+** countries • Finished as **Pre-Quarterfinalist** at Pearl British Parliamentary Debate 2021, among **80+** teams • Represented IIT Bombay at **6** major national debate tournaments with **200+** participants • **Finalist** at Freshmen Debate Open 2021 outperforming **20+** speakers among first-year students
Quizzing	• **Regional Winner** of **TCS IT Wiz** conducted by **Tata Consultancy Services** among **500** teams from South India. Participated in the National Finals with top teams from 12 major cities • Finished **4th** in Inter School Quiz hosted by The Hindu and National Insurance among **100** teams • Finished **6th** in the Hindu Young World Quiz 2016-17 among **100** teams from all over the state
Volunteering	• Contributed **80+ hrs** for community service teaching **underprivileged** children through NSS