



**K Adithya Krishna**  
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**Indian Institute of Technology Bombay**

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**B.Tech.**  
**Gender: Male**  
**DOB: 11/8/2001**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2024	-
Intermediate	CBSE	Chinmaya Vidyalaya	2020	
Matriculation	CBSE	Chinmaya Vidyalaya	2018	

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

## SCHOLASTIC ACHIEVEMENTS

- Currently students in the Department of Chemical Engineering, IIT Bombay ('22)
- Secured All India Rank **1409** in Joint Entrance Examination Advanced out of **0.2 million+** candidates ('20)
- Attained **99.75** percentile in Joint Entrance Examination Mains among **1.1 million+** aspirants ('20)
- Received rank of **55** in Kerala Engineering Architecture Medical Entrance Exam among **70k+** students ('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 top **0.1%** out of 1 million applicants ('18)
- Selected among top **25** students from Kerala to write Indian National Mathematical Olympiad (**INMO**) ('17)

## PUBLICATIONS

- Discovery of **COMET C/2022 N1 (Attard-Maury)**, 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.
- Discovery 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

**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 won 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** | *Institute Developers' Community, 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** | *Institute Developers' Community, IIT Bombay* (May '22 - Present)

*A one-stop online platform for reviews and resources on **3600+** courses catering to **10,000+** students in IIT Bombay*

- Collaborated with Student Support Services to bring minors and honors reviews increasing page visits by **four-fold**
- Crafted a 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 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

**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

**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**

## OTHER PROJECTS

### Image Classification with CNN | *Self Project*

(May '22)

- Performed image classification on the Clean Room vs Messy Room dataset (200 images) with **80% test accuracy**

### DigiPad | *Institute Developers' Community, IIT Bombay*

(Jun '21 - Sept '21)

- Ideated on an app to write on 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

### Lasso Game | *Course Project*

(Jan '21 - Feb '21)

Guide: Prof. B. Raman & Prof. K. Chebrolu, Department of Computer Science & Engineering

- Utilized SimpleCPP Graphics Library to create a scoreboard and handle keyboard events for a multilevel game
- Leveraged concepts of **Object Oriented Programming** in C++ to simulate the motion & collision of objects

### Elementary Particle Physics | *Summer of Science, Maths & Physics Club*

(May '21 - Jul '21)

- Investigated the properties of neutrinos such as neutrino oscillations, handedness and experiments to detect them
- Studied about different kinds of hadrons, leptons, quarks etc and the quantum numbers used to describe them

## POSITIONS OF RESPONSIBILITY

### Project Lead | *Institute Developers' Community, IIT Bombay*

(Mar '22 - Present)

DevCom is a **30** member team tasked with maintaining **critical** digital infrastructure such as InstiApp, Mess-i, etc

- Increased the user base of InstiApp by **10%** by forming a **4** member design team to improve UI/UX and outreach
- Spearheading a team of **10** developers and designers to improve the reliability & support of Mess-i and Resobin

### 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

- Mentoring **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

### Organising Committee | *13th IIT Bombay Debate Tournament*

(Aug '21 - Oct '21)

Asia's Largest British Parliamentary Debate Competition with **300+** participants and a budget of **INR 2.5 lakhs**

- Part of a two-tier team of **20** members to run a debate tournament efficiently with debaters from all over the world
- Executed smooth registrations of over **130** national and international debate teams belonging to **20+** countries

### Web and Tech Coordinator | *51st Edition Mood Indigo, IIT Bombay*

(May '21 - Jan '22)

Asia's largest college cultural festival | Viewership: **100,000+** | Average Viewing Time: 3 hrs

- Increased workshops and competitions registration of Indoor Indigo by **120%** through innovative portal design
- Revamped the home page of My-MI website and Indoor Indigo built on **Angular Framework** to look more modern

## TECHNICAL SKILLS

Languages	C++, Python, Java, Javascript, Dart, Git, L <sup>A</sup> T <sub>E</sub> X, 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	<b>Financial Markets</b> (Yale University, Coursera), Neural Networks and Deep Learning, Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization and Structuring Machine Learning Projects (part of <b>Deep Learning Specialization</b> by DeepLearning.AI and Andrew NG)

## EXTRACURRICULAR ACTIVITIES

University Debating	<ul style="list-style-type: none"><li>Represented India in <b>5</b> int'l tournaments (Yale IV, UADC Bali)   <b>400+</b> participants   <b>10+</b> countries</li><li>Finished as <b>Pre-Quarterfinalist</b> at Pearl British Parliamentary Debate 2021, among <b>80+</b> teams</li><li>Represented IIT Bombay at <b>6</b> major national debate tournaments with <b>200+</b> participants</li><li><b>Finalist</b> at Freshmen Debate Open 2021 outperforming <b>20+</b> speakers among first-year students</li></ul>
Quizzing	<ul style="list-style-type: none"><li><b>Regional Winner</b> of TCS IT Wiz conducted by Tata Consultancy Services among <b>500</b> teams from South India. Participated in the National Finals with top teams from 12 major cities</li><li>Finished <b>4th</b> in Inter School Quiz hosted by The Hindu and National Insurance among <b>100</b> teams</li><li>Finished <b>6th</b> in the Hindu Young World Quiz 2016-17 among <b>100</b> teams from all over the state</li></ul>
Misc	<ul style="list-style-type: none"><li>Contributed <b>80+ hrs</b> for community service teaching <b>underprivileged</b> children through NSS</li><li>Conceptualized and created a redesign of Instagram with <b>glassmorphic UI</b> for the display of <b>8000+</b> audience in Vision: Design Festival of IIT Bombay conducted by The Design Club</li><li>Developed a mathematical model to determine the water, air and food requirements of an interplanetary manned space mission for the <b>CBSE Regional Level Science Exhibition 2017</b></li></ul>