Gettiboina Chanikya Prakash | **210050053**
Computer Science & Engineering | **B.Tech.**
Indian Institute of Technology Bombay | **Gender: Male**
DOB: 14/09/2003

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2025	
Intermediate	Andhra Pradesh Board of Intermediate Education	Sri Chaitanya	2021	98.30%
Matriculation	Board Of Secondary Education Andhra Pradesh	Sri Chaitanya	2019	10

Pursuing **Minor** in **Machine Intelligence** and **and Data Science**

Scholastic Achievements

- Secured **All India Rank 377** in JEE Advanced 2021 amongst the 1,50,000 candidates *('21)*
- Secured **All India Rank 543** in JEE Mains 2021 amongst 1.2 Million candidates *('21)*
- Recipient of **National Talent Search Examination (NTSE)** Scholarship by NCERT *('19)*
- Secured **State Rank 17** in AP-EAMCET conducted by Andhra Pradesh State Council *('21)*
- Secured **State Rank 126** in TS-EAMCET conducted by Telangana State Council *('21)*

Internship Experience

Data Analyst Intern | *Goglocal Private Limited* *(Spring '23)*

- Leveraged Python for **QC automation**, streamlining statistical data prep and significantly **enhancing efficiency**.
- Developed a partially functional **Amazon web scraper**, enabling efficient crawling through multiple pages for data.
- Merged Python-powered QC automation and web scraping to synergize efforts, delivering valuable data insights.

Key Projects

Rail Planner *(Autumn '22)*
Guide: Prof. Supratik Chakraborty | Course Project: DSA Lab *IIT Bombay*

- Implemented multiple data structures and alogorithms in C++, including **Linked Lists, Dictionaries, Binary Search Trees, Tries,Priority Queues,** and **BFS, DFS, KMP** and utilized each of them within suitable components
- Implemented graph data structure to find the **shortest route** between two stations in the multi-rail network system.
- Implemented an interface for **rating and filtering system** for the reviews using **Heap and Priority Queues**

Cinema A to Z *(Autumn '22)*
Guide: Prof. Kavi Arya | Course Project: Software Systems Lab *IIT Bombay*

- Developed a comprehensive movie and TV show database by utilizing **web scraping techniques** on IMDb, Rotten Tomatoes, extracting crucial data such as titles, ratings, genres, user reviews, similar movies, plot and cast information
- Designed, executed, and successfully deployed an **SQL database** to efficiently store and manage the scraped data
- Constructed a user-friendly website using PHP, allowing users to create accounts, log in, and **personalize their movie watching experience** by liking, watching, and adding or removing movies, TV shows to their watchlist

Portfolio Website *(Autumn '22)*
Guide: Prof. Kavi Arya | Course Project: Software Systems Lab IIT Bombay

- Designed user-friendly website on **IITB CSE server using SSH**, with various pages describing me and my projects
- Used **HTML, CSS, Javascript, and Bootstrap** for developing the website and to make it responsive and interactive

Improvised IPCP Prefetcher *(Spring '23)*
Guide: Prof. Biswabandan Panda | Course Project : DLD and Computer Architecture *IIT Bombay*

- Obtained an average **1.05x speedup in IPC** on various traces by enhancing the IPCP prefetcher using champsim.
- Improved IP address classification by **increasing confidence bit allocation**, reducing misclassification errors
- Created a **hybrid order model** adaptable to changing confidence levels of IP classes for precise classification

Lattice based Cryptography *(Spring '23)*
Guide: Manoj Prabhakaran | Course Project: Cryptography and Network Security *IIT Bombay*

- Investigated mathematical **foundations of Lattices** and their relevance to cryptographic tools, including PQC
- Conducted an extensive exploration of lattice-based public key cryptosystems, such as **GGH** and **NTRU**, delving into the mathematical foundations that utilize lattice properties to construct schemes **resistant to quantum attacks**.
- Presented seminar findings on Lattices, cryptographic constructions, and **secure communication** in PQC

Other Projects

Tic-Tac-Toe *(Autumn '22)*
Guide: Prof. Kavi Arya | Course Project: Software Systems Lab *IIT Bombay*

- Developed a two-player Tic-Tac-Toe game using a **Peer-to-Peer** networking model, using the Socket and ServerSocket.
- Implemented message exchange mechanisms between players using ports, **enabling real-time gameplay**

Sliding Puzzle *(Spring '23)*
Guide: Ashutosh Gupta | Assignment: Logic for Computer Science *IIT Bombay*

- Developed SAT-based puzzle solver by implementing rules and constraints and finding **optimal moves** within limits
- Implemented efficient Python algorithm using **Z3 solver** and added **clauses for solving**, showcasing logical reasoning

Credit card fraud Detection *(Spring '23)*
Guide: Joshi Meet Anilkumar | Project: WIDS,Analytics Club *IIT Bombay*

- **Analysed** the relations between the parameters and **visualized** the data using **pandas and matplotlib**
- **Cleaned and balanced** the skew data by using **SMOTE** and found an efficient model to fit the data

Random Walkers *(Autumn '22)*
Guide: Prof. Suyash P. Awate | Course Project: Data Analysis and Interpretation *IIT Bombay*

- Simulated N random walkers in Python using **Matplotlib and NumPy** for visualizing their movement patterns.
- Confirmed **Law of Large Numbers** through empirical analysis, demonstrating convergence with larger sample sizes.

Image Processing and Data Analysis *(Autumn '22)*
Guide: Prof. Suyash P Awate | Course Project : Data Analysis and Interpretation *IIT Bombay*

- Designed an algorithm for **uniform sampling** from a Euclidean Plane, ensuring equal probability distribution.
- Applied **dimensionality reduction** techniques to visualize a 28×28 pixel image on an 84-D hyperplane.

Ghost in maze *(Spring '22)*
Guide: Prof. Rushikesh K. Joshi | Course Project : Abstractions and Paradigms *IIT Bombay*

- Programmed a Maze game using **FLTK library**, implementing inheritance and event handling for interactive gameplay.
- Utilized the FLTK library's **Fl_Counter class** to implement a score & time counter functionality within the program.

Group Theory *(Spring '23)*
Guide: Arpon Basu | Ongoing Project : Summer of Science *Institute Technical Council, IIT Bombay*

- Investigated the mathematical principles of groups, discovering fascinating insights into their structure, properties
- Explored practical applications of group theory in cryptography, physics, computer science, and network analysis

Technical Skills

Programming:	C++, C, Python, Java, Assembly, Prolog, Haskell, Bash, Awk, Sed
Web Development:	HTML, CSS, Bootstrap, PHP, JavaScript
Software:	Git, LaTeX, Doxygen, Sphinx, Jupyter, Docker, Wireshark
Packages:	NumPy, Matplotlib, Pandas, scikit-learn, Pytorch, Spacy

Courses Undertaken

Computer Science:	Data Structures and Algorithms + Lab, Discrete Structures, Data Analysis and Interpretation, Software Systems Lab, Design and Analysis of Algorithms, Digital Logic Design + Lab, Computer Networks + Lab, Logic for Computer Science, Cryptography and Network Security, Abstractions and Paradigms in Programming, Computer Programming and Utilization,
Mathematics:	Calculus, Linear Algebra, Differential Equations
Others:	Mathematical Structures for Control, Introduction to Electrical and Electronics Circuits, Quantum Physics and Application, Basics of Electricity and Magnetism, Engineering Graphics and Drawing, Physical Chemistry, Organic and Inorganic Chemistry, Biology, Economics

Extracurricular Achievements

- Successfully completed a course under the **National Sports Organization(NSO)** *('21)*
- I actively participated as a volunteer in a **blood donation camp** organized by Abhuday, IIT Bombay. *(Autumn '22)*
- Secured 3^{rd} position in the **COD** Tournament in CSE department organised by CSEA *(Autumn '22)*
- Participated in the **EnB Buzz** competition organized by **E-Cell, IIT Bombay** *(Autumn '21)*
- **RC Plane** *(Autumn '22)*
  Aeromodelling Club, IIT Bombay
  · Constructed a **remote controlled plane** out of Depron sheets with adhering to the cautions
  · Planned by keeping in mind the **wing loading**, wing shape, air drag, **balance** and weight