



Gaurav Bhalerao
Chemistry
Indian Institute of Technology Bombay

22B2701
B.S.
Gender: Male
DOB: 11/07/2004

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2026	
Intermediate	HSC	ST Teresa School	2022	73.83%
Matriculation	SSC	ST Teresa School	2020	95.20%

SCHOLASTIC ACHIEVEMENTS

- Achieved an outstanding accomplishment by securing **AIR-142** in highly competitive **NSO Olympiad** (2019)
- Recipient of the National Talent Search Examination (**NTSE**) Scholarship awarded by the **NCERT** (2021)
- Secured **District Rank 1** in Maharashtra Talent Search Examination (MTSE) among **5000+** students (2019)
- Awarded the **Pre Secondary Scholarship fellowship** by MSCE Pune among **1,00,000+** students (2018)

PROFESSIONAL EXPERIENCE

Software Developer Intern | Systemica Solutions | B8R Homes (Jan'24 - Mar'24)

Stealth mode startup providing innovative real estate services through digital solutions

- Resolved **10+** critical front-end bugs, **reducing loading time** by **15%** and improving user satisfaction by **25%**
- Performed thorough **manual testing**, identifying **7+** critical issues, contributing to a **10%** boost in app stability
- Contributed actively by creating **5+ PR** and used **Docker** to set up and manage the development environment
- Worked collaboratively with a **6-person** team to successfully build and launch the startup's **MVP product**

KEY TECHNICAL PROJECTS

Blockchain Technology | Summer of Science | MnP Club, IIT Bombay (Jun'23-Aug'23)

- Gained hands-on experience with **Ethereum**, setting up **private networks** and deploying **smart contracts**
- Tested smart contracts on **Sepolia testnet**, showcasing proficiency in blockchain dev tools **dApp architecture**
- Analyzed **potential benefits** of using blockchain in **voting systems** to enhance the **security** and **transparency**
- Demonstrated proficiency in blockchain's **decentralization**, **cryptographic hashing**, and **consensus mechanisms**

Attendance Face Recognition System | WiDS | Analytics Club, IIT Bombay (Dec'23- Jan'24)

- Developed an attendance face recognition system using **OpenCV**, demonstrating expertise in computer vision
- Completed a mini-project on efficient **coin counting** techniques in images, showcasing **image processing** skills
- Developed a **database system** to efficiently **store** and **retrieve** student information and attendance records
- Implemented **data visualization** techniques to analyze and improve **algorithm performance** in image processing

CodeClash-Competitive Programming | Seasons of Code | WnCC, IIT Bombay (May'24-Present)

- Brainstormed **100+** questions on LeetCode, GeeksforGeeks, and CodeStudio maintaining **80%+** accuracy
- Studied theoretical and practical aspects of **Data Structures** and implemented their algorithms in **C++**
- Explored **time complexity** and concepts from **Data Structures and Algorithms** for improved problem-solving
- Studied usage of **C++ STL**, creation of **generic code templates** for faster implementation during contests

Payments App | React, Express.js, HTTP, Node.js, MongoDB | Self-Project (Feb'24)

- Built a comprehensive user authentication system using **JWT**, facilitating secure **user registration** and **login**
- Developed a set of **RESTful API** endpoints using **Node.js** and **Express** to facilitate the retrieval of user data
- Implemented **Cross-Origin Resource Sharing** to enable communication between **frontend** and **backend**
- Implemented **database transactions**, ensuring data consistency and preventing inconsistencies in case of failures

Blog Website | Typescript, Zod, Cloudflare, Postgres | Self-Project (Jun'24)

- Used a deployed **npm package** for type definitions, accessible to **frontend & backend** for improved code quality
- Built **APIs** for efficient blog data access and manipulation, using **Prisma** for data schema definition and management
- Utilized **Vercel** for streamlined **frontend deployment** and **Cloudflare Workers** for a serverless **scalable backend**
- Developed dynamic website with **TailwindCSS** including **skeleton** and **spinner** elements for smooth user experience

PayTM Application | Next.js, Express, Turborepo, Tailwind | Self-Project (Jun'24 -Jul'24)

- Leveraged **TurboRepo** for **mono repo** management, achieving a **30%** improvement in development efficiency
- Implemented the database operations using **Prisma ORM** for type-safe queries in a **PostgreSQL database**
- Designed **P2P transaction** functionality, enabling secure **user-to-user** money transfers within the application
- Implemented a **mock bank server** using **Express.js** to simulate **webhook** responses for payment transfers

OTHER PROJECTS

Line Follower Mountain Cargo | MS101 Course Project | Guide: Prof. Kushal Tuckey (*Feb'23-Jun'23*)
In a Team of 6, designed line-following robot for 10,20 and 30-degree slope with advanced control and sensors

- Designed and constructed a specialized mountain cargo capable of precision **navigation on inclines** up to **30** degrees, equipped with **line-following capabilities**, and proficiently **executing turns** as needed in the path
- Implemented **Arduino** coding to control and **optimize** the vehicle's functions and enhance its performance
- Led the **mechanical assembly** phase, overseeing the precise **integration of components** and the robot's stability
- Conducted rigorous **testing** and **optimization** of the line follower system to ensure reliability and efficiency

Foundry FundMe | Solidity, Foundry, Ethereum | Decentralised App | Self-Project (*July'23*)

- Developed a **smart contract** leveraging **blockchain** technology, enabling **fund acquisition** from users, secure **withdrawal** of funds, and the dynamic setting of a **minimum funding threshold**, denominated in USD
- Incorporated **Chainlink** oracle services for **PriceFeeds**, establishing a framework for accessing real-time cryptocurrency prices via **decentralized nodes**, ensuring accurate and up-to-date **pricing data integration**
- Used **Foundry** for deploying smart contract to **Anvil** and **Ethereum** blockchain through **RPC endpoints**
- Conducted **testing** and **debugging** of the smart contract, ensuring its reliability under various usage scenarios

Notes Keeper App | React.js, HTML, CSS | Self-Project (*Dec'23*)

- Developed a note-keeping system using **React** for the frontend to provide a **dynamic** and **responsive** user interface
- Integrated **CRUD**(Create, Read, Update, Delete) functionalities allowing user to write, save, edit and delete notes

COURSES UNDERTAKEN

CS/DS	Computer Programming and Utilization, Artificial Intelligence and Data Science
Science	Calculus, Linear Algebra, Differential Equations, Introduction to Classical Physics, Physical Chemistry, Organic and Inorganic Chemistry, Introduction to Quantum Physics, Biology
Other	Contemporary Issues in Data Policy and Management, Design Thinking for Innovation, Trustworthy Systems: A Policy Engagement, Affirmative Action in India: A Brief Constitutional History
Online	Bitcoin Basics: Protocol and Design, Freshman-Intro to Programming by LearnWeb3

POSITIONS OF RESPONSIBILITY

Mentor | Summer of Science | MnP Club, IIT Bombay (*May'24-Present*)

- Developed comprehensive curriculum materials covering key topics in DSA, tailored to students' skill levels
- Provided one-on-one mentorship to students, offering personalized feedback to improve their coding abilities
- Assisted students in developing comprehensive documentation for their **data structures** implementations

Food & Beverages Coordinator | Mood Indigo, IIT Bombay (*May'23 - Jan'24*)

Asia's Largest College Cultural Festival | Footfall: 1,46,000+ | Colleges: 4000+ | Events: 240+ | Food Kiosks: 65+

- Managing and overseeing **65+** food kiosks at **3+** locations, catering to the needs of attendees and fest visitors
- Ideating the food fest with **10+** events and revamping the Food Booklet Guide, distributed to **150k+** visitors
- Pitching** and **negotiating** sponsorship deals with multiple companies across **5+** cities to drive revenue growth

Mess Councilor | Hostel 9, IIT Bombay (*May'24-Present*)

Nominated representative of 450+ students | Leading a team responsible for managing the hostel mess

- Identified and resolved issues related to hostel facilities, services, and resident concerns promptly and efficiently
- Utilized analytical skills to assess situations and make **data-driven decisions** to improve hostel operations

TECHNICAL SKILLS

Programming	C++, Python, Solidity, JavaScript, Bash, Arduino, L ^A T _E X
Development	Next.js, TypeScript, Docker, CloudFlare, Turborepo, Tailwind, React, Express, Node.js
Libraries	Recoil, Zod, Nextra, Vite, Foundry, JWT, psql, Mongoose, NumPy, Pandas
Software	Git, Github, Dockerhub, Vercel, Postman, Replit, Remix, MongoDB Compass, AutoCAD
Database	AWS, Prisma, PostgreSQL, MongoDB, Neondb, Aivendb, Suprabase, pgadmin

EXTRACURRICULAR ACTIVITIES

- Coordinated **E-Cell** activities and acted as the sole **POC** for **BuildINT** during the E-Summit (*Jan'23*)
- Successfully completed one year of training in Cricket under **NSO** during first year at IITB (*Nov'22- Jun'23*)
- Participated in WnCC's **Blockchain workshop**, gaining insights into blockchain's applications (*Aug'23*)
- Participated in the **StarkCon Online Bootcamp** exploring new avenues in the field of Web3 (*May'23*)
- Took part in the **Freshiesta** tournament, showing competitive skills in the **Rubik's Cube** competition (*Jan'23*)
- Secured **2nd** position in **Freshie Exhibition** Cricket Tournament conducted by IITB Cricket club (*May'23*)