Tanmay Hiremath			**19D070061**	
Electrical Engineering			**Dual Degree (B.Tech. + M.Tech.)**	
Indian Institute of Technology Bombay			**Gender: Male**	
Specialization: Communication & Signal Processing			**DOB: 14/11/2001**	

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2024	6.64
Intermediate	HSC	ASV Junior College, Navi Mumbai	2019	84.46%
Matriculation	CBSE	J.H. Ambani School, Panvel	2017	10

SCHOLASTIC ACHIEVEMENTS

- Secured **All India Rank 449** in the Joint Entrance Examination Advanced amongst 0.2 million candidates *(2019)*
- Achieved **99.88** percentile in the Joint Entrance Examination Main amongst 1.14 million candidates *(2019)*
- Awarded **Fellowship** in Kishore Vaigyanik Protsahan Yojana (KVPY) SX stream *(2019)*
- Among the **National Top 1%** in National Standard Examination in Chemistry and qualified for **INChO** *(2019)*
- Bagged the **1st** prize in BSE International Finance Olympiad (BIFO), a Bombay Stock Exchange initiative *(2017)*
- **One of the 4** Maharashtra awardees (Minister of Information & Technology) in the Digital India initiative *(2016)*

PROFESSIONAL EXPERIENCE

Backend and AI/ML Developer | *FogTeams*
Founding Team Member | Offered a full-time position

AI SalesAgent *(Mar '23-Present)*

- Worked in a team of 3 to build a low latency AI bot using **Large Language Models** for realistic conversation
- Fetched documents relevant to the query using **Facebook AI Similarity Search** and **Sentence-Transformers**
- Integrated various tools for voice calling, Speech-to-text, and Text-to-speech for immersive audio interactions
- Employed an asynchronous architecture with Workers, Interruptible events, and Queues to minimize overall latency

Google Meet Co-pilot *(Apr '22-Feb '23)*

- Worked in a core team of 4 to build a Google Meet Extension & Slack App which allows collaborative note-taking in Google Meet, automatically transcribes meetings, sends the meeting summary on Slack, and tracks action items
- Built from scratch an **ExpressJS** server, integrating **Slack Web Client**, to manage the UI for the Slack app
- Worked with **Apache Solr**, **SocketIO**, ReactJS, Rasa and AWS services like **Cloudfront**, CloudWatch, ELB
- Coded the **Django** Backend from scratch, created APIs, sent automated emails & updated relevant data to Solr
- Implemented a robust CI/CD pipeline from scratch using **Jenkins**, automating deployment for enhanced efficiency
- Devised custom **Rasa** chatbot actions for Slack, incorporating ChatGPT right into Slack using OpenAI APIs

Money Game Development | *Swiflearn, Incassable Technologies* *(May '21-Jul '21)*
Backend Developer | Swiflearn is an online platform for academic courses for students (Now acquired by Unacademy)

- Developed from the ground up a Money Game for **50K+** active students which allowed them to use virtual money to purchase items or invest it to get various types of returns based on attendance in class or time since investment
- Integrated a feature where teachers could fast forward the game of particular students by some number of days to teach them about investments and the state of the game could be restored completely back to the start
- Optimized **MySQL** queries and Python code, reducing the response times of demanding APIs with significant data
- Worked with **Vue.js**, Django, Amazon Web Services like **Simple Queue Service (SQS)**, **EC2**, **S3**

POSITIONS OF RESPONSIBILITY

Dev Team Member | *Placement Team, IIT Bombay* *(Jun '23-Present)*

- Managed bug fixes and implemented new features for the campus placement website, ensuring smooth operation
- Worked with **NestJS**, **Knex.js** query builder, PostgreSQL DB & **Docker** for backend and Angular for frontend
- Engaged in design discussions, coding, and debugging, contributing actively throughout the development cycle

Web Manager | *Insight, IIT Bombay* *(Apr '21-May '22)*
Insight is IIT Bombay's Official Student Media Body

- **Headed** the Web Team that maintains the official website and other microsites of Insight, IIT Bombay
- Migrated the **Wordpress** website to an **EC2** instance on AWS and ensured **backup measures** for the MySQL DB
- Developed various microsites like Senior Survey, Freshie Newsletter using **Angular**, HTML, CSS, JS

Institute Sports Convener | *Institute Sports Council, IIT Bombay* *(Jun '20-Apr '21)*
- Responsible for maintaining and developing the **PHP** based official website of IIT Bombay Sports
- Developed pioneering IIT Bombay Sports App - a Progressive Web App, cross-platform, responsive, with **Angular** frontend, **NodeJS** backend with features such as Live Score, Court Booking, E-Certificate Generator

TECHNICAL PROJECTS

Tinkerers' Laboratory Website *(Apr '20-Jul '20)*
Seasons of Code | Web and Coding Club, IIT Bombay
- Developed an **E-Inventory management** system for **2500+** users to issue inventory items using **Angular**
- Included an administrator panel to manage inventory items and sent alerts by email to the administrators
- Incorporated IIT Bombay's **Single Sign On** authentication implemented using **OAuth 2.0**

Real-time Chat Application *(Jul '20)*
Self Project
- Developed a real-time chatting application with frontend in **Ionic Angular** and backend in **ExpressJS**
- Incorporated a feature to create and join private rooms with a room code using Web Sockets in **SocketIO**
- Deployed the Android app as an APK using **Android Studio** with the backend hosted on **Heroku**

UMIC Website *(Jul '20-Aug '20)*
Unmesh Mashruwala Innovation Cell, IIT Bombay
- Created a **responsive** website to showcase the team's work in a concise manner using **Bootstrap**, Javascript
- Designed a database in **PostgreSQL** and a backend using **Django** for updating dynamic content on the website

Multi-Task Network using Vision Transformer *(Jun '23- Present)*
Dual Degree Project | Prof. Biplab Banerjee, IIT Bombay
- Designed an innovative multi-task network with **attention** masks in **PyTorch** for precise task-specific learning
- Working to replace the **Convolutional Neural Network** architecture with **Vision Transformers**

Smart Traffic Management System *(Apr '20-Jun '20)*
Institute Technical Summer Project | Institute Technical Council, IIT Bombay
- Engineered a Traffic Management System that employs Image Processing to identify vehicle types and vehicle counts, optimizing lane time allocation accordingly
- Devised an Image Detection Program with **OpenCV**, recognizing **80** object classes via **YOLOv3** adaptation

Mess Digitization *(Feb '21-Mar '21)*
Institute Technical Council, IIT Bombay
- Digitized the manual process of authenticating students in mess to reduce the burden on mess workers
- **Entirely in charge** of the backend designing & coding of the project to handle mess data in Django & **MongoDB**
- Utilized the student data stored, created APIs to facilitate hardware interaction for meal access, which verified the time and card, and displayed the result to mess workers

ATM Simulator *(Mar '21-Apr'21)*
Course Project | Microprocessors Laboratory | Prof. V. Rajbabu & S. Vijayakumaran, IIT Bombay
- Coded a program to simulate an ATM on the Atmel AT89C51 **Micro-controller** with a LCD Module
- Programmed the micro-controller in **Embedded C** using Keil μVision and Flip softwares
- Used **UART** Module and RealTerm software for interfacing between keyboard and micro-controller

TECHNICAL SKILLS

Languages	Python, Javascript, C, C++, Java, Julia, Bash, HTML, CSS
Development	Django, Node.js, Docker, Socket.IO, Angular, React, Vue.js, Next.js, Ionic, PHP, Redis
Python Libraries	Pandas, Matplotlib, Numpy, OpenCV, Asyncio, Django, Flask, FastAPI

KEY COURSES

Mathematics and Computer Science : Data Structures and Algorithms, Markov Chains and Queueing Systems, Differential Equations-II, Complex Analysis, Image Processing, Computer Programming and Utilization, Probability and Random Processes, A First Course in Optimization, Machine Learning for Remote Sensing - II

Electrical Engineering: Microprocessors, Electromagnetic Waves, Digital Systems, Signal Processing

EXTRACURRICULAR ACTIVITIES

- Made educational **YouTube videos** on topics related to sustainable social development for school students as part of Tarang, NSS and was awarded with a **special mention** for 80 hours of **exemplary** volunteering work *(2019)*
- Completed courses for **Data Analytics** & **Computer Vision** under Learners' Space by UGAC successfully *(2020)*
- Conducted 2 major strategy games, managing **300+** participants as part of E-Summit 2020 by E-Cell, IITB *(2020)*
- Successfully finished the **12km** long **Cyclothon** (cycling marathon) organized by Techfest, IIT Bombay *(2020)*
- Publicised **Techfest, IIT Bombay** as an organiser, bringing in a total footfall of **175K+** visitors *(2019)*
- Engineered an App-Controlled Obstacle-Manoeuvring Bot for XLR8 competition hosted by ERC, IITB *(2019)*