Ashutosh | **210020025**
Chemical Engineering | **B.Tech.**
Indian Institute of Technology Bombay | **Gender: Male**

Examination	University	Institute	Year
Graduation	IIT Bombay	IIT Bombay	2025

Pursuing a Minor Degree from Department of **Centre for Machine Intelligence and Data Science,** IIT Bombay

SCHOLASTIC ACHIEVEMENTS

- Awarded **AP (A+) grade** in **CS 101** course bestowed to **3** out of **668** students for exemplary performance in the course
- Achieved **99.62 Percentile** in **JEE mains** examination and secured rank in top **0.40 Percentile** in **JEE Advanced** examination
- Shortlisted for 5 days **SSB Interview** for officer rank conducted by **Service Selection Board, Ministry of Defence** *(2019)*

PROFESSIONAL EXPERIENCE

Data Analyst | Intern | ***DeNA, Tokyo - Japan*** *(May'24-Jul'24)*
- Developed a **bot-detection algorithm** that effectively capture **existing** & **newly** created bot accounts on Pococha app
- Banned **15,000+** bots from **Pococha Live** app with **50L+ downloads in India**, enhancing revenue potential for the platform
- Leveraged **network science tools** to decode user behavior, revealing latent connections & insights from app usage patterns

Machine Learning Engineer | Intern | ***AiProff*** *(Jan'24-Mar'24)*
*Received a **Letter of Recommendation** from the **CEO** of the company for **exemplary** work performance & **out-of-the-box** thinking*
- Developed a **computer vision-based** Machine Learning model to prevent animal intrusion in the agricultural fields
- Improved model accuracy through successful implementation of **data collection** & **data augmentation** techniques

Optimizing Maharashtra State Road Transport Corporation (MSRTC) Operations | Research Intern *(May'23-Dec'23)*
*Guide: Prof. Milind Sohoni, Department of Computer Science & Engineering, **IIT Bombay***
- Contributing to the development of a sustainable **transportation system** to serve larger population in **Maharashtra**
- Conducted a **field visit** & engaged with **depot manager** to closely observe operations & identify the challenges of MSRTC

Automated Attendance marking system | Research Intern | ***Computer Vision*** *(Nov'22-Dec'22)*
*Guide: Prof. Pawan Goyal, Department of Computer Science & Engineering, **IIT Kharagpur***
- Collaborated with a PhD student to develop a face recognition model by incorporating insights from multiple research papers
- Recipient of a commendatory **letter of recommendation** from the professor for underscoring exemplary work performance

KEY PROJECTS

Plant Disease Identification | *Deep Learning* | *Research Project* *(Feb'23)*
- Developed an **innovative app** utilizing a neural network to accurately detect potato plant disease using **leaf image**
- Designed & integrated frontend webpage with **FastAPI** backend framework, enable user-friendly interaction with the model
- Successfully **deployed** the model on the **Google Cloud Platform (GCP)** that enables seamless accessibility to the user

License Plate Recognition | *Computer Vision* | *Research Project* *(Dec'23)*
- Developed an ANPR model using computer vision, integrating **Vision Transformers** for superior accuracy & performance
- Improved ANPR accuracy via **advanced image processing** & **object detection** across various colors & plate sizes

Image Caption Generator | *Computer Vision* | *NLP* | *Self Project* *(Nov'23)*
- Leveraged the **VGG16** model to fine-tune ICG, achieving high accuracy in generating contextually relevant captions
- Implemented a **CNN-RNN** architecture, combining CNN for feature extraction & **LSTM** for generating image captions

Audio Instrument Separation | *Deep Learning* | *Course Project - CS419* *(Apr'23)*
- Employed diverse range of **Spectrogram** & **Masking** techniques for high-quality isolation of **Drums, Bass, Vocals** sounds
- Trained a DL model on the **MUSDB** dataset comprising of **150 audio mixtures** to achieve high-quality audio stem isolation

Movie Recommendation Web Application | *Natural Language Processing* | *Self Project* *(Apr'23)*
- Combined **data analysis** & **web technologies** to create an interactive & personalized movie recommendation system
- Utilized regular expressions and cosine similarity on past audience reviews, resulting in accurate movie suggestions

Universal Unsupervised Anomaly Detection in Medical Imaging | *Machine Learning* | *Course Project - DH602* *(Apr'24)*
- Developed a modified **Reverse Autoencoder** with **attention mechanisms** for unsupervised anomaly detection in brain MRIs
- Integrated a **discriminator network** & **enhanced loss function** with **adversarial learning** for more accurate classification
- Evaluated the model using large-scale medical imaging datasets (FastMRI+, IXI, Brats, Kaggle) for performance validation

TECHNICAL SKILLS

Programming & Scripting Languages: C, C++, Javascript, Python, Solidity, HTML, CSS
Tools & Libraries: FastAPI, Flask, MATLAB, LaTeX, Django, NumPy, TensorFlow, GitHub, SQL, BigQuery, Argus
Kali Linux Tools: BurpSuite, WireShark, Aircrack-ng, John, HashCat, Social Engineering Toolkit, BetterCAP, ARPSpoof, Hydra

EXTRA - CURRICULARS & POSITIONS OF RESPONSIBILITIES

- Selected for the **Inter IIT Sports Meet'22**, Athletics Camp at IIT Bombay, showcasing exceptional athletic abilities & dedication
- Acquired **ethical hacking** skills & demonstrated expertise in leveraging **Kali Linux** tools for cybersecurity applications
- Participated in & prepared models for Wifi Controlled Racing Bot & Radio Control Plane competitions held at IIT Bombay
- Served as a Coordinator for **Media** and **Public Relations** at **Abhyuday** (Social Body of IIT Bombay) for its 8^{th} edition