



**Pokala Mohith**  
**Computer Science & Engineering**  
**Indian Institute of Technology Bombay**

**190050084**  
**B.Tech.**  
**Gender: Male**  
**DOB: 1/4/2002**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2023	
Intermediate	TSBIE	FIITJEE Junior College	2019	98.60%
Matriculation	ICSE	St.Joseph's School	2017	96.50%

Pursuing **Honors in Computer Science** and **Minors in Industrial Engineering and Operations Research**  
Completed a **Specialization in Deep Learning**

## SCHOLASTIC ACHIEVEMENTS

- Secured **All India Rank 186** in Joint Entrance Examination Advanced amongst 2,50,000 candidates (2019)
- Secured **All India Rank 124** in Joint Entrance Examination Mains amongst 1 million candidates (2019)
- Scored **396 marks out of 450** in BITSAT (Birla Institute of Technology and Science Aptitude Test) (2019)
- Secured **All India Rank 108** in **EAMCET** examination conducted by **State Board of Telangana** (2019)
- Recipient of the **KVPY** fellowship awarded by the Department of Science and Technology, Government of India (2018)
- Secured **State second highest mark** in **Junior Intermediate** conducted by **State Board of Telangana** (2018)
- School Topper** in 10th grade examination conducted by **Indian Certificate of Secondary Education** (2017)

## INTERNSHIP AND PROFESSIONAL EXPERIENCE

### Marsh & McLennan

*Machine Learning Intern*

*Summer 2021*

- Developed a **ticket classification model** for assigning tickets to groups using data fetched from **IT Service Desk**
- Preprocessed** the text using **NLTK** libraries for **lemmatization**, to remove **stop words** and **email signatures**
- Used **Tokenizer** and **CountVectorizer** to convert text into numeric data and trained an **LSTM** model over it

### Newzera Pvt Ltd

*Software Engineer Intern*

*Winter 2020*

- Worked on frontend for the Help and Notification pages of the **Newzera CMS** website using **React JS**
- Added **animations** and performed **snapshot tests** and **unit tests** using **jest**, **enzyme** and **react-testing** library
- Developed a **search bar** with a provision for **recent searches**, **auto-fill** and **suggestions**

## KEY PROJECTS

### Facial Expression Recognition with Keras

*Summer 2020*

*Guide: Snehan Kekre | Online Project*

*Coursera Project Network*

- Developed a **facial expression recognition** model in **Keras** by training a **convolutional neural network**
- Trained a **CNN model** using data of **7 Universal Facial Expressions** used in a Kaggle World Championship
- Applied the model on live stream using **opencv** after recognizing the face using a pretrained model

### Medical Diagnosis with Deep Learning

*Summer 2021*

*Guide: Pranav Rajpurkar | Online Project*

*Coursera Project Network*

- Developed a model which can diagnose **14 different diseases** using **Chest Xray** data annotated by the consensus
- Augmented** data using **ImageDataGenerator** and applied a pre-trained **DenseNet121** model on processed data
- Developed an **U-Net** model for **Segmentating 3D MRI scans of brain** with **Soft Dice function** as loss function

### Red Plag

*Autumn 2020*

*Guide: Prof. Amitabha Sanyal | Course Project*

*IIT Bombay*

- Developed a **Plagiarism checker** for **C++**, **Java**, **Python** files using **Angular** for frontend and **django** for backend
- Developed a robust **authenticating** system using **django**, implemented **Token Authentication**, created **SQLite** tables to store user information and their files and integrated the backend with frontend using **rest api**
- Removed redundant functions and comments, **replaced macros** in the source code using **g++** preprocessing
- Used **bag of words** strategy to ensure **position independence** and used **cosine similarity** to make predictions

### Tweet Emotion Recognition

*Summer 2021*

*Guide: Amit Yadav | Online Project*

*Coursera Project Network*

- Preprocessed tweets using **NLTK** and **Named Entity Recognizer** and predicted **emotion of tweet**
- Used two **Bi-directional Long short-term memory** units followed by a **dense layer** with **softmax** activation

## OTHER PROJECTS

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### Logic Encoding in z3Py

Guide: Prof. Ashutosh Gupta | Course Project

Spring 2021

IIT Bombay

- Encoded a **Mastermind agent** robust to an **unreliable opponent** by maximizing the satisfied clauses using **z3py**
- Developed a solver for removing the **minimal set of edges** to disconnect any two given vertices of a graph

### Traffic Sign Classification with Deep Learning

Guide: Ryan Ahmed | Online Project

Summer 2020

Coursera Project Network

- Developed a **Traffic sign Classification** model in **Keras** which plays a crucial role in **autonomous vehicles**
- Trained a **CNN** model with a training set of length **35000** containing **43 Unique Traffic Signs** taken from the German dataset and was able to reach **96% accuracy** on test data and **98% accuracy** on training data

### Food Delivery Web Application

Learner's Space

Summer 2020

Web Coding Club

- Developed a responsive Food Delivery Website using **HTML**, **CSS**, **JavaScript**, **Bootstrap** and **Django**
- Created responsive **Login**, **Logout** and **Register** pages using **SQLite** to store user information
- Used **Django** backend to manage **URLs**, **Views** and **databases** and deployed the website using **pythonanywhere**
- Designed a **Contact Page** where users can give feedback and a **Checkout Page** where users can view their final bill

### Principal Component Analysis and Dimensionality Reduction

Guide: Prof. Suyash Awate | Course Assignment

Autumn 2020

IIT Bombay

- **Denoised** and **reconstructed** the images using the modes of variation having Eigen values above a threshold
- Performed **Dimensionality Reduction** by approximating the closest representation of an image by minimizing the **Frobenius Norm** and generated images similar to the dataset using **Eigen Vectors of Covariance matrix**

### IITB-PROC

Guide: Prof. Virender Singh | Course Project

Spring 2021

IIT Bombay

- Developed a **16-bit processor** using **VHDL** to execute operations from a file based on instruction format
- Implemented a **Finite State Machine** for the execution of 15 instructions in a **6-staged pipeline**

## COURSES UNDERTAKEN

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**Computer Science** Data Structures and Algorithms, Discrete Structures, Computer Networks, Digital Logic Design, Logic for Computer Science, Operating Systems\*, Computer Architecture\*

**Data Science** Data Analysis and Interpretation, Advanced Image Processing, Artificial Intelligence and Machine Learning\*, Foundations of Intelligent and Learning Agents\*

**Miscellaneous** Calculus, Linear Algebra, Operations Analysis, Web Development, Optimization Models\*

\* To be completed by November 2021

## TECHNICAL SKILLS

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**Programming** Proficient in C++, Python | Familiar with Java, Bash, VHDL, Matlab

**Data Science** NumPy, SciPy, Keras, Pandas, TensorFlow, SQLite, NLTK, scikit-learn, matplotlib

**Web Development** Django, HTML, CSS, JavaScript, Bootstrap Angular, React, Jest

## POSITIONS OF RESPONSIBILITY

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### Events Coordinator

Entrepreneurship Cell

July 2020-September 2020

IIT Bombay

- Assisted in an association of outreach partners for **Eureka!** to increase its reach. Eureka is the **Asia's largest business model competition**, with over 11.5k+ entries and prizes worth INR 5 Million

### Headboy and President of School Cabinet

St. Joseph's School

(2016-2017)

- Organized inter school **debate** conducted in school with participants coming from **20+ ICSE** schools in **Hyderabad**
- Organized Science Exhibition, School fest and various other cultural and sports events at School level.

## EXTRACURRICULARS

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- Completed a year course(NOCS) under the **National Sports Organisation (NSO)** in **Keyboard** (2019-20)
- Secured **3rd-runner up** position in quiz conducted by **Derek O'Brien** and **Vodafone** at State Level (2015)
- Secured High Distinction in **Australian National Chemistry Quiz** conducted by **Royal Australian Chemical Institute**, an international event spread over **20 countries** and over **1500 schools** (2015,2013)
- Secured Gold Medal in **Analytical And Problem Solving Skills** conducted by Eduranet at National Level (2013-14)