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**B.Tech.**  
**Gender: Male**  
**DOB: 09-03-2000**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2021	
Intermediate	BIEAP	SRI CHAITANYA Co-EDUCATION Jr COLLEGE	2017	98.60%
Matriculation	BSEAP	SRI VIJNANA VIHARA (E.M) HIGH SCHOOL	2015	9.8

## Scholastic Achievements

- Pursuing a **Minor Degree in Systems and Control Engineering** department, IIT Bombay
- Secured All India Rank **634** in IIT JEE-Advanced out of **0.22 million** candidates [’17]
- Secured All India Rank **981** in IIT JEE mains examination among **1.2 million** candidates [’17]
- Secured the **3rd highest** score in **Intermediate Public Examination** in AP state board [’16]

## Professional Experience

### Kenfront | Data Analyst

[Jun ’20 - Aug ’20]

- **Preprocessed** the corpus of text into tokens, performed **feature extraction** and used various machine learning algorithms to build a **classification** system to **predict the sentiment of textual data**
- Tokenized the text into words, eliminated **stop words** and **normalized** by **stemming** and **lemmatizing**
- Developed bag of words model by employing **term frequency-inverse document frequency** for feature extraction and applying **KNN, SVC, multinomial naive Bayes** algorithms and achieved **85%** accuracy
- Generated **word embeddings** of preprocessed data and applied **CNN, LSTM** to improve accuracy to **90%**
- Upgraded the model to classify into **13 emotions** with **69%** accuracy instead of just positive and negative
- Integrated the model in an application using **twitter API** to classify the tweets according to the sentiment

### Query by Humming | IIT Kanpur

[May ’19 - Jul ’19]

*Guide: Prof. Vipul Arora, Department of Electrical Engg., IIT Kanpur*

- Implemented a QBH system deploying **Locality Sensitive Hashing, Note-Based Recursive Alignment, Dynamic Time Wrapping**, and **Wasserstein Distance** to produce a ranked-list of recommended songs
- Employed the **Source-Filter model** with **Non-Negative Matrix Factorization** technique (**SF-NMF**) followed by a **CNN-RNN** network for Melody Extraction from Polyphonic Music by salience enhancement
- Implemented a **hybrid HMM-CNN** where a **3-state HMM** models note events and a **CNN** is trained to model **posterior probabilities** of the HMM hidden states for effective transcription of humming queries
- Designed a **DNN** approach for music file representation in a **Deep Musical Semantic Embedding Space** inspired from **Levenshtein space deep embedding (LSDE)** model used for Query-by-string word-spotting

## Key Projects and Certifications

### Detecting COVID-19 with Chest X-Ray using PyTorch | Coursera

[Jun ’20]

*Guide: Amit Yadav, Senior Machine Learning Engineer at Picquora*

- Created an **image classification** model using **ResNet-18** neural network that can classify chest X-Ray scans into **three categories** - **normal, Viral Pneumonia or COVID-19**
- Achieved **96.6%** accuracy on **COVID19 Radiography** dataset containing nearly **3000 chest X-ray scans**

### Java training | Swabhav Techlabs

[Jun ’20 -Jul ’20]

*Awarded the **Letter of Excellence** for the exceptional performance during the one-month Java training*

- Developed a **menu-driven console-based** application to create a connection with **MySQL** server and update the contacts database using **JDBC**; used **PreparedStatement** class object to prevent **SQL Injection**
- Incorporated the **SOLID principles** to make the code more understandable, flexible and maintainable

### Using Efficient Sorting Algorithms in Java to Arrange Tax Data | Coursera

[Jun ’20]

- Created an application to sort Missouri Tax Data in ascending order using five sorting algorithms
- Analysed **bubble sort, insertion sort, merge sort, selection sort, and quicksort** algorithms and observed the difference between various efficient sorting algorithms in **memory and time usage**

## Movie Recommendation system | Self project

[May '20]

- Predicted the rating that a user would give to a movie given the ratings by other users and of other movies
- Achieved **RMSE less than 1.1** on Netflix data of 17770 movies and more than 480000 users using SVD

## Machine Learning | Stanford University | Coursera

[April '20]

- Analysed Deep Neural Networks, Support Vector Machines, Kernels from a mathematical perspective
- Assessed clustering and dimensionality reduction techniques behind unsupervised learning algorithms
- Explored the application of learning algorithms in building anomaly detection and recommender systems

## Text Search Engine | IIT Kharagpur

[May '18 - Jun '18]

Guide: Dr. Pawan Goyal, Department of Computer Science Engg., IIT Kharagpur

- Designed a **PyLucene-based Information Retrieval System** that scans through all the text documents in a given folder, **Indexes** them and thus provides a fast and enhanced **Text-Search ability** for the same.
- Incorporated the **NLTK** python library into our model providing an additional **Synonym Search** utility
- Employed **python-Levenshtein** library to overcome **Spelling Errors** that occur while querying the database

## Positions of Responsibility

### Design Convener | Undergraduate Academic Council

[18 - '19]

- Part of 3 members group responsible for publicizing the events of UGAC, catering to **3200+** students
- Ideated and revamped the **logo** for **courserank**, IIT Bombay, an online platform for reviewing courses
- Designed posters for events of **the six bodies** of Undergraduate Academic Council, IIT Bombay

### Organiser | Media Department, E-summit, IIT Bombay

[18]

- Contacted different media groups to cover the **annual entrepreneurship summit** of **E-cell**, IITB
- Arranged accommodation for reporters; point of contact for **Maharashtra Times** reporters during summit

## Technical Skills

Programming languages	Python, R, C++, Java, MATLAB, SQL, L <sup>A</sup> T <sub>E</sub> X
Softwares	Power BI, SolidWorks, AutoCAD, Photoshop, MS Excel
Operating Systems	Windows, Linux

## Key Courses Undertaken

Mechanical Engineering	Solid Mechanics, Fluid Mechanics, Engineering Drawing, Heat Transfer, Manufacturing Processes, Microprocessor and Automatic Controls, Thermodynamics
Maths and Science	Calculus, Linear Algebra, Differential Equations, Biology, Introduction to electrical and electronic circuits, Quantum Physics, Introduction to Numerical Analysis
Other	<b>Computer Programming and Utilization</b> , Economics, Engineering Data Mining and Applications, Introduction to Psychology, Operations Analysis
Online Courses	<b>Deep Learning Specialization</b> (5 courses), <b>Data Science</b> , <b>R</b> Programming

## Extracurricular Activities

- **National Cadet Corps** [17 - '20]
  - Completed a **three-year-long** training as an **NCC** cadet and received **C-certificate**
  - Participated in a **parade** at IIT Bombay on the occasion of **69th Republic day**
  - Attended 10 day long **Annual Training Camp** at 2 Maharashtra Engineering Regiment NCC
- Worked as an organiser in food and beverages department of **Techfest**, the technical festival of IITB [17]
- Worked as an organiser in competitions department of **Mood Indigo**, annual cultural festival of IITB [17]
- Finished 30 hours of English Language Learning conducted by **British Council** at IIT Bombay [17 - '18]
- Volunteered in the 5th edition of the **annual social festival** conducted by **Abhyuday**, IIT Bombay [18]
- Volunteered in the world's largest **cleanup campaign** at Versova beach launched by Afroz Shah
- Bagged **silver medal** in state-level inter school science quiz conducted by God's Way Brilliant school