

## EDUCATION

**IIT (BHU) Varanasi**  
*B.Tech in Computer Science and Engineering*

Varanasi  
*Jul 2016 – May 2020*

## SKILLS

**Domains:** Machine Learning, Deep Learning, Natural Language Processing (NLP), Reinforcement Learning, Time Series, Computer Vision, Audio Processing, Statistics

**Tools & Frameworks:** Git, Flask, FastAPI, AWS, Docker, Kubernetes, Redis, Django, React/NextJS, Bigquery, GCP

**Languages & Libraries:** Python, R, SQL, Tensorflow, Pytorch, Keras, NLTK, spacy, OpenCV

## WORK EXPERIENCE

*Data Scientist*

Bangalore, India  
*Sep 2022 – Present*

- Developed and trained **1D & 2D CNNs** on mel-spectrograms for genre classification, achieving 72% & 78% accuracy respectively. Reduced model size from **31MB** to **5MB**, improving latency by **8x**; deployed on Android devices via **TensorFlow Lite**.
- Built a **search engine** to match 40M+ unclean song titles with MusicBrainz data, leveraging **word embeddings** indexing via **BM25** and **NMSLIB** for precise **fuzzy** matching.
- Engineered a **hybrid recommendation system** using **matrix factorization** and **custom CNN-derived audio features**, resulting in a **2.3%** increase in user engagement as evidenced by A/B testing.
- Designed a music visualizer utilizing **StyleGAN-XL** and MoviePy, transforming audio features into latent vectors for image generation synchronized with music.
- Developed and implemented a **Transformer**-based model to predict **user ad click** behavior, analyzing sequential user interactions to dynamically optimize ad content, leading to a **28%** increase in click-through rates.

*Data Scientist II*

Gurgaon, India  
*Aug 2020 – Sep 2022*

- Enhanced AI revenue forecasting using models like **ARIMA**, **FB Prophet**, **LSTM**, and **Transformer**.
- Adjusted engine for **post-Covid** disruptions across 600K products using **TRMF**, **DLM** and **LightGBM**.
- Achieved a global MAPE of **1.6%**, earning the '**CFO Award**' for project impact on company financials.
- Streamlined time-to-hire prediction, employing **XGBoost** and **CatBoost**, reducing RMSE to 5.6 days.

*Quant Research Consultant*

Remote  
*Jul 2018 – Oct 2019*

- Developed and contributed 120+ '**Alpha**' algorithmic trading models in python for diverse markets, employing strategies such as **Mean-Reversion** & **Behavioral Exploitative**, catering to markets in Asia, Europe, and USA.

## AWARDS & ACHIEVEMENTS

Recognized for outstanding individual contribution and significant project impact.

**International Quant Championship:** Ranked **2nd** in IQC 2018 India Finals organized by

**KVPY 2015 Fellowship:** Secured AIR 574 among 100,000+ candidates in an exam organized by IISc, Bangalore.

**JEE Advanced:** Achieved All India Rank 2214 among 1.5 million candidates.

## ACADEMIC PROJECTS

### Sentiment Embeddings based Sentiment Analysis

- Implemented sentiment-specific word embeddings from the paper "Sentiment Embeddings with Applications to Sentiment Analysis," improving sentiment analysis accuracy and reducing feature engineering needs.

### RL based Recommendation System

- Implemented RL based recommendation system using TF Agents and tested on MovieLens dataset