

PRATIK SHETTY

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Education

IIT Hyderabad

M.Tech , Artificial Intelligence and Machine Learning

June 2024

CGPA 8.08

Visvesvaraya Technological University

B.E , Computer Science and Engineering

June 2017

Percentage: 71.1

General Skills

- **Languages:** C++, Python, Java, Julia, Golang
- **Libraries:** PyTorch, Hugging Face, OpenCV, Seaborn, Keras, Scikit-Learn, Pandas, NumPy, Langchain
- **Database:** MySQL, Postgres, Cassandra, Elasticsearch
- **Courses/Certifications:** Machine Learning, Mathematics for ML (Probability, Linear Algebra, Statistics), Parallel Computing, CUDA Programming by *Nvidia DLI*, Distributed Computing, Deep Learning, Computer Vision, NLP, GenAI
- **Tools:** Git, Docker, MS Excel, Kafka, AWS SNS, MPI, CI/CD(Jenkins), Spring Boot

Work Experience

IIT Hyderabad, India

Research Assistant

Aug 2021 – Jun 2024

- Part to the Parallel and Distributed Computing Lab and served as a Teaching Assistant for **Parallel** and **Distributed Computing** courses.
- Implemented an optimized triangle counting algorithm for undirected graphs and integrated it into a distributed setting.
- Developed a **Wait-Free graph** snapshot using the Iterator algorithm on a Linked-List Graph Architecture, enabling Lock-Free concurrent Insert, Update, and Delete operations on dynamic unbounded graphs.
- Achieved a 15% improvement in efficiency compared to Obstruction-Free Snapshot response times.
- Enhanced the efficiency of search and update operations by integrating **Linear Regression** using **Learned Index**.

Infosys Pvt Ltd, India

Senior Associate

Dec 2017 – Jan 2021

- Worked as a Backend Developer on an E-Learning Platform named Wingspan, later open-sourced with the name Eagle.
- Designed and developed the notification system using **AWS SNS** to improve user engagement.
- Developed the Learner Cohort feature for courses which increased the interactions between learners.

Projects

AI-Driven Media Investment Plan Optimization (Python)

Hackathon Project - Optimized budget allocation across paid media channels to maximize customer acquisition and conversion rates.

- Analyzed customer journey data from Google, Microsoft, Meta Ads, and website landing interactions to identify key trends and channel performance.
- Generated key features such as click-through rate (CTR), conversion rate, and cost per conversion to enhance model accuracy.
- Applied machine learning models, including **regression analysis** and **Markov Chains**, to evaluate the effectiveness of various media channels at different stages of the customer journey (**Dynamic Attribution Model**).
- Utilized **Linear Programming** to reallocate a budget across paid media channels, adhering to constraints such as minimum spend per channel, to maximize conversions and ROI.

Local Multi-Head Channel Self-Attention for Emotion Recognition (Python)

- Integrated the **LHC Self-Attention module** with the existing **ResNet34v2** to enhance Facial Emotion Recognition capabilities.
- Conducted performance comparisons on the FER 2013 dataset between modified and original ResNet34 architectures.

RAG based question answering chatbot for an E-Commerce setting (Python)

- Developed a Retrieval-Augmented Generation (RAG)-based e-commerce chatbot using **ChromaDB** and **LangChain** for intent classification, semantic information retrieval, and action handling.
- Implemented intent classification using large language models and optimized retrieval precision for relevant data fetching.
- Evaluated chatbot performance through metrics such as classification accuracy and response time.

Emotion Recognition using Speech and Text data (Python)

- Evaluated the performance of Transfer Learning against conventional methods with Speech and Text data.
- Utilized **RAVDESS** dataset to fine-tune multiple **CNN** models for Speech data comparison.
- Compared Transfer Learning using **BERT** to **LSTM** models using **IMEOCAP** dataset.

Publications

- **Non-blocking Dynamic Unbounded Graphs with Wait-Free Snapshot:** Accepted in International Symposium on Stabilization, Safety, and Security of Distributed Systems (**SSS 2023**).