PRATIK BHANGALE

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Skills

Languages: Python, R, C++, C, Java, JavaScript, TypeScript, Kotlin, SQL
Developer Tools: Jupyter Notebooks, VS Code, Microsoft Azure MLOps, Google Cloud Platform, Tableau, GitHub
Technologies/Frameworks: Tensorflow, PyTorch, Retrival Augmented Generation(RAG), LangGraph, LLM Inference, FAISS, Pinecone, Hugging Face, Chatbot, ReactJS, HTML, CSS, NodeJS, REST API, Scikit-learn, Docker, Kubernetes.

Education

Rochester Institute of Technology	**Aug. 2023 – May 2025**
Masters of Science in *Artificial Intelligence* (3.79 - 4.00 GPA)	*Rochester, NY, USA*
MIT ADT University	**Aug. 2018 – May 2022**
Bachelors of Technology in *Computer Science and Engineering* (7.53 - 10.00 CGPA)	*Pune, India*

Relevant Coursework

- NLP - 1
- Deep Learning
- ML for Difficult Data
- Visual Analytics
- Research for AI
- Math Methods for AI
- Ethics of AI
- Data Structures

Experience

LTI Mindtree	**Jan 2021 – Feb 2021**
Data Science Intern | Python, TensorFlow, Scikit-Learn, Pandas, and Seaborn.	*Mumbai, India*

- Executed customer segmentation using 10 clustering algorithms on data gathered from 1,00,000 people.
- Evaluated the performance and efficiency of all 10 algorithms and determined the 3 best algorithms.
- Implemented advanced descriptive statistics, data visualization, and dimensionality reduction techniques and boosted data analysis accuracy by 10 percent.

Projects

Full-Stack AI Chatbot Using OpenAI API. \| *React, OpenAI API, Async Programming, State Management*   **Mar 2025**
- Formulated a responsive React chatbot integrating OpenAI's GPT-4o mini model with asynchronous streaming reducing response time by 75 percent.
- Optimized markdown-enabled chat interface featuring real-time rendering, automatic scrolling, and multi-threading.
- Implemented secure API authentication with client-side validation, persistent key storage, and streaming message delivery across 3 custom React components.   Github Repo 1.

Medical Imaging and Diagnosis Support Using Agentic AI and Multi-Modal RAG \| *In-Progress*   **Jan 2025**
- *Python, LangGraph, Image Segmentation, Azure MLStudio*
- Developed and integrated a medical image segmentation model with Graph RAG and Similarity Search RAG into clinical workflows, enhancing diagnostic accuracy by 10 percent and reducing knowledge retrieval time by 20 percent.
- Leveraged Azure Machine Learning Studio to streamline model deployment, reducing deployment time by 15 percent and enhancing scalability.   Github Repo 2.

Fine-Tuning, Knowledge Distillation, and Pruning of LLM's \| *Transformers, Torch, Datasets, PEFT*   **Mar 2024**
- Engineered model optimization like knowledge distillation and pruning on LLM Models resulting in a 87.5 percent reduction in model size while maintaining performance.
- Designed a data preprocessing pipeline that handled over 200,000 conversation records improving data quality and model training efficiency.   Github Repo 3.

Publications

"Fake Review Identification using Various Kinds of Neural Networks – A Systematic Review."   **Sep 2022**
- DOI - R. Sajjan, P. Bhangale, P. Desai

Leadership / Extracurricular

Association of Computer Science and Engineering Students	**Aug 2021 - May 2022**
Technical Team Member	*MIT ADT University*

- ∗ Conducted 9 workshops and technical treasure hunts for students in college. Certificate 1

MIT ADT University Badminton Club	**Jan 2020 - May 2022**
Team Captain	*MIT ADT University*

- ∗ Lead the University team to a Silver Medal in Maharashtra State Inter Collegiate Badminton Tournament.