DIVYESH MISTRY

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EDUCATION

Master of Science in Computer Science - Data Science   **Aug 2024 - May 2026**
University of Southern California | 3.75 GPA   **Los Angeles, California**
Bachelor of Engineering in Computer Engineering (Minors in Data Science)   **Aug 2021 - June 2024**
University of Mumbai | 9.00 CGPA   **Mumbai, India**

WORK EXPERIENCE

Data Science Intern | ServiceLink   **June 2025 - Aug 2025**
- Accomplished a 38% accuracy improvement in post-close document completeness analysis by building a custom dataset of 4,000+ images with metadata and fine-tuning a multimodal LLM (google/gemma-3-4b-it) using JSON prompting, LoRA, and PEFT, decreasing GPU and memory usage on resource-constrained hardware.
- Achieved optimal model architecture selection by benchmarking 10+ open-source vision-language models, evaluating accuracy, output quality, inference speed, and model size.
- Cut down model size by 70%, via 4-bit quantization leveraging LLaMA.cpp.
- Delivered real-time, offline document completeness analysis with 100% on device data privacy on 3+ platforms through a cross-platform React Native app combining a custom-trained, quantized vision-language model via llama.rn for on-device AI inference.

Research Assistant | USC Ming Hsieh Department of Electrical and Computer Engineering   **Dec 2024 - May 2025**
- Improved Python-based COVID-19 time-series simulation model by integrating Cython extensions into an existing forecasting architecture, attaining a 25% speedup in module compilation time while improving parallel processing for multi-state epidemiological projections and advancing performance engineering.

Research Assistant | USC Keck School of Medicine   **Sept 2024 - Dec 2024**
- Identified Structural Variants in Human DNA, aligned oncogene sequences with whole human genome using Sniffles2, enhancing understanding of genetic variations. Translated gene sequences to Amino acid sequences and annotated mutations; identified mutation types with reference tables.

Data Analyst Intern | OziBook   **Aug 2023 - Oct 2023**
- Led a team of 30 interns to enhance Lead Generation process by generating a database for potential clients, securing 2 new clients. Collaborated with Business and Research Analyst Teams to analyze over 900 potential client profiles and shortlist clients suitable for company's services with Tableau and Pandas for Data Analysis.
- Designed PowerBI dashboards to evaluate company's position relative to its competitors.

PROJECTS

AI-Powered Academic Research Assistant   **Aug 2023 - Apr 2024**
- Implemented NLP techniques, 'Fitz' and 'PyPDF2' libraries to extract data and images from research papers.
- Applied LexRank algorithm to identify Key Takeaways, reducing time spent manually by 90%.
- Fine-tuned LongT5 Transformer model and integrated it to summarize research papers. Improved Summary generation time by 75%. Researched over 7 Neural Network Data Models to analyze best fit with given memory constraints.

Choose Your Own Adventure Game   **Nov 2023 - Dec 2023**
- Engineered real-time data injection pipeline into GPT-3 on Cassandra Astra, enabling dynamic, personalized gameplay through contextual AI-driven responses to player choices.
- Optimized game performance by utilizing vector databases for efficient data storage and retrieval. Leveraging Cassandra chat message history and conversation buffer memory for efficient data handling.
- Showcased prompt templates to dynamically inject variables into AI prompts, fostering customized interactions.

Sentiment Analysis   **Apr 2023 - Apr 2023**
- Devised a sentiment analysis model deploying BERT (Bidirectional Encoder Representations from Transformers) to accurately predict sentiment labels for given text data, classifying as 'Neutral', 'Positive', or 'Negative', and achieving 97% model accuracy. Connected system with a Flask interface to provide GUI for Machine Learning model.

Recipe App Using Flutter   **Aug 2022 - Oct 2022**
- Developed a dynamic and user-friendly Recipe App operating on Flutter framework. Application's primary goal is to provide users a convenient platform to discover, order ingredients, and share favorite recipes seamlessly.
- Created an intuitive recipe upload and editing feature, allowing users to contribute recipes to app's database.
- Integrated RazorPay as a payment gateway solution, enabling users to purchase required ingredients.

CERTIFICATIONS

- Data Visualization and Communication with Tableau by Coursera   **2023**
- Data Analysis with R Programming by Coursera   **2023**
- React Native - The Practical Guide by Udemy   **2023**
- Flutter & Dart - The Complete Guide by Udemy   **2022**

SKILLS

Hard Skills: Tableau | C# | C++ | Statistics | Flutter | Firebase | Python | Data Mining | Java | MySQL | PHP | ETL | Spark | Scala
Soft Skills: Problem Solving | Teamwork | Leadership | Decision making | Effective Communication Skills | Presentation Skills