DIVYESH MISTRY

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EDUCATION

Master of Science in Computer Science - Data Science **Aug 2024 - May 2026**
University of Southern California | 3.65 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

Research Assistant | USC Ming Hsieh Department of Electrical and Computer Engineering **Dec 2024 - Present**
- Optimized Python-based COVID-19 time-series simulation model by integrating Cython extensions into an existing forecasting architecture, achieving a 25% speedup in module compilation time while improving parallel processing for multi-state epidemiological projections and advancing performance engineering.
- Worked on low-level Python extensions for compute-intensive tasks aligned with cloud and containerized deployment.

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

Data Analyst Intern | OziBook **Aug 2023 - Oct 2023**
- Led a team of 30 interns to enhance the 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 shortlisted clients suitable for the company's services using data analytics tools like Tableau and Pandas
- Designed PowerBI visualizations to evaluate company's position relative to its competitors.

Data Science Intern | CodeClause **Apr 2023 - May 2023**
- Undertook 3 impactful projects utilizing advanced Data Analysis and NLP skills and contributing to team objectives.
- Fulfilled various projects, including Sentiment Analysis Fake News Detection Parkinson's Disease Detection.

Webmaster | Code-X, SFIT **Aug 2022 - Jul 2023**
- Led & redesigned website along with other webmasters, incorporating technologies, ReactJS, Firebase & FileZilla
- Optimized website infrastructure by replacing outdated dependencies and packages, resulting in a 30% faster overall page load time, and a 40% reduction in security vulnerabilities.

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.
- 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 the best fit with given memory constraints.
- Deployed components on cloud infrastructure for scalable inference and data processing, and optimized performance for ML model execution using cloud-compatible tooling. Applied LexRank algorithm to identify Key Takeaways, reducing time spent manually by 90%.

Choose Your Own Adventure Game **Nov 2023 - Dec 2023**
- Integrated GPT-3 APIs and real-time data injection on Cassandra Astra, enabling the game to generate personalized and contextual responses based on player choices and explored scalable architectures suited for cloud deployment.
- 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, 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 & TECHNOLOGIES

Data Analytics | RStudio | Tableau | Pandas | AWS | Flutter | GoLang | TensorFlow| Docker | Java | SQL | Scikit-learn | PyTorch