Melvin J Joseph

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EDUCATION

PES University — Bengaluru, India
Bachelor of Technology in Computer Science and Engineering — Sep. 2021 – Present (Expected May. 2025)
- CGPA: 8.7/10 (as of Jan. 2025)

Deeksha Center For Learning PU College — Bengaluru, India
Pre-University Course — May. 2019 – Jun. 2021
- 95.6% in 2nd PU Boards

EXPERIENCE

Teaching Assistant for Data Structures — Aug 2024 – Dec 2024
PES University — *Bengaluru, India*
- Designed and evaluated diverse lab assessments, enhancing the understanding and application of data structures for over 120 students. Effectively addressed and resolved student doubts, and contributed to student's development by providing timely feedback and mentoring students on coding practices and problem-solving strategies.

ONGOING RESEARCH PROJECTS

Sports Video Summarization Using Multi-modal Approach | *Python, Tensorflow* — Feb. 2024 – Present
- Integrated audio, video, and textual data to generate enriched football highlights using techniques like YOLO for scoreboard detection, Whisper for audio transcription, and fine-tuned BERT for event classification.
- Achieved high precision and recall by combining modalities, identifying additional key events beyond standard highlights, and leveraging advanced integration algorithms.

PROJECTS

Sentiment-Driven Stock Price Forecasting | *Jupyter, Hugging Face, Keras* — Feb. 2024 – Apr. 2024
- Developed a project focused on leveraging natural language processing (NLP) techniques to analyze sentiments from daily news articles related to Tata Motors. This involved scraping, curating, and annotating a comprehensive dataset comprising both historical stock prices and day-wise news articles
- Applied deep neural network architectures like Long Short Term Memory (LSTM), to predict future stock prices of Tata Motors based on the sentiment analysis of news titles.

Inventory Management System | *Python, Flask, RabbitMQ, MongoDB, Docker* — Mar. 2024 – Apr. 2024
- Designed and implemented a scalable microservices architecture using Flask and Python, enabling independent development, deployment, and scaling of components.
- Utilized RabbitMQ for robust inter-service communication, ensuring reliable message passing between health checks, item creation, stock management, and order processing services.
- Containerized the application using Docker for consistency and portability across environments, and integrated MongoDB for efficient inventory data management with comprehensive CRUD operations

TECHNICAL SKILLS

Languages: Python, C, SQL (MySQL, SQLite), MongoDB, HTML/CSS
Frameworks: Tensorflow, Scikit-learn, Keras, Pytorch
Developer Tools/Technologies: Git, Linux, Docker, VS Code, Jupyter, GitHub
Libraries: Pandas, NumPy, Matplotlib, OpenCV, Tensorflow, Scikit-learn, Keras

AWARDS/ POSITIONS OF RESPONSIBILTY

Core Team Member — Aug. 2022 – Jul. 2023
Google Developer Student Clubs PESU ECC
- Mentored participants in Override -an app development hackathon and CSS Battles - a CSS design competition

Dr. C N Rao Merit Scholarship Award — Jan. 2024
PES University
- 40% tuition fee waiver awarded to the top 20% students in the department.