YASH DEOLE

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Education

University of California, Irvine **Dec 2025**
Master of Data Science | GPA: 3.93
Core Courses: Artificial Intelligence, Statistics and Probability, ML, Database Management, Multivariate Statistics

Vellore Institute of Technology, India **May 2024**
Bachelors of Technology in Computer Science and Engineering
Core Courses: Machine Learning, Natural Language Processing, AI, Image Processing, Business Analytics

Experience

AI Developer Intern **Jun 2025 – Sep 2025**
Boundary RSS, Glendora CA

- Developing a Small Geospatial Model (SGM) for advanced GIS analysis through a chat-based interface.
- Engineering a cross-platform plugin and API for integration with QGIS, ArcGIS Pro, and Google Earth Engine.
- Implementing an automated pipeline for AI self-improvement, enabling the model to learn from new research.

Graduate Student Researcher **Apr 2025 – Jun 2025**
Calit2, Irvine CA

- Developed a time-series deep learning surrogate (GRU) targeting 90% faster thermal simulations than traditional FEM.
- Used GANs to synthesize realistic time-series thermal data, effectively augmenting sparse experimental datasets to capture complex temporal dynamics.
- Engineering efficient Deep Learning architectures for accurate temporal thermal predictions comparable to FEM results.

Undergraduate Researcher **Sep 2023 – Nov 2023**
Vellore Institute of Technology, India

- Developed a novel RNN-BiLSTM model achieving 95.64% accuracy for complex cross-lingual sentiment analysis.
- Significantly outperformed state-of-the-art models like mBERT and RoBERTa on this specific task.
- Created an effective tool for tracking nuanced political sentiment across language barriers in Pakistan. *IEEE link*

Data Analytics Intern **May 2023 – July 2023**
Manastik Pvt Ltd, India

- Built ML models in Python using patient quiz scores and demographics to predict cognitive decline with 85.97% accuracy.
- Analyzed model outputs to uncover key predictors, enabling personalized cognitive assessments based on individual risk.

Skills

Programming Languages: Python (Pandas, PyTorch, Tensorflow, OpenCV, Keras, Scikit-learn, Matplotlib), R, C++, SQL
Data Visualization & Analytics: Tableau, Microsoft Excel
Machine Learning & Data Engineering: Hugging Face, Large Language Models, Spark
Certifications: Python Data Analysis for Healthcare, IBM AI Analyst, Image and Video Processing (Duke University), Machine Translation (Karlsruhe Institute), Computing using Python (IIT)

Projects

Flood Detection using Transfer Learning and CNN

- Merged RGB and infrared bands and applied an unsharp filter to enhance satellite image quality.
- Employed Convolutional Neural Networks (CNN) to analyze satellite imagery.
- Utilized transfer learning techniques to effectively detect flood events. Dataset: *Sen12-Flood* ; *Github*

Fall Detection by Fine Tuning LLM and Gradient Boosting Techniques

- Developed a fall detection system analyzing both image and sensor data from the UP-Fall dataset.
- Achieved 96.3% accuracy with the LLaVa model for images and 99.3% with XGBoost for sensor data.
- Demonstrated that sensor data outperforms image data, indicating a need for future multimodal frameworks. Dataset: *UPFall* ; *Github*