NUPUR ABHIJIT DASHPUTRE

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[LinkedIn](#) | [Portfolio](#) | [GitHub](#)

EDUCATION

University of Southern California — Los Angeles, CA
Master of Science in Computer Science – Data Science — August 2024 – (Expected) May 2026
Related Coursework: Analysis of Algorithms, Database Systems, Machine Learning for Data Science

MIT – World Peace University — Pune, India
Bachelor of Technology in Computer Science Engineering — August 2020 – June 2024
Related Coursework: Data Structures, Distributed Processing, Software Engineering, Data Mining

TECHNICAL SKILLS

Programming & Tools: Python, Go, Java, MATLAB, SQL (MySQL, PostgreSQL), MongoDB, Tableau
Data & ML: PyTorch, TensorFlow, Scikit-Learn, Numpy, Pandas, Seaborn, LangChain, LangGraph
Web & Backend: FastAPI, Flask, Node.js, Express, React, JavaScript, TypeScript, Streamlit, HTML, CSS
DevOps & Automation: Docker, Kubernetes, Git (version control), CI/CD, AWS, GCP, Agile (Scrum)

PROFESSIONAL EXPERIENCE

Sigma Healthsense — Los Angeles, CA
Software Development Engineer Intern — June 2025 – August 2025
- Built and deployed a production-grade real-time patient monitoring system on Google Cloud, streaming RTSP feeds into Dockerized microservices and using TypeScript and PostgreSQL for backend tracking. Reduced incident response times by 35% and integrated smoothly with hospital workflows.
- Optimized fault-tolerant CV pipelines for real-time anomaly detection and validated performance with clinical staff. Worked with EHR-linked data and applied HIPAA-aligned practices to ensure secure handling of sensitive patient information.

USC Viterbi School of Engineering — Los Angeles, CA
Graduate Research Assistant — September 2024 – January 2025
- Preprocessed and analyzed 12,000+ OCT retinal scans across five Diabetic Retinopathy stages using CLAHE, edge detection, and vessel masking to enhance microaneurysm visibility for computer vision model training.
- Experimented with YOLO and ImageNet-based architectures, incorporating zero-shot learning techniques to explore automated stage classification and early risk prediction in younger patients.

Rolls Royce Power Systems AG — Pune, India
Data Analyst Intern — January 2024 – June 2024
- Analyzed 5M+ rows of marine diesel engine time-series data obtained using MATLAB; built ARIMA models with 95%+ accuracy (RMSE: 0.05) for predictive maintenance.
- Automated reporting workflows with Python and SQL, cutting analysis time by 75%, and delivered dashboards utilized by field engineers and senior managers, that helped reduce ferry downtime by 20% and cut maintenance costs.

PROJECTS

AI-powered Trip Planner Agent — November 2025
- Built an AI-driven trip-planning agent (LangGraph + FastAPI + Streamlit) that generates itineraries with real-time weather, cost estimates, currency conversion, and attraction insights, reducing manual planning time by 90%.
- Containerized and deployed the system on AWS EC2 using Docker + systemd, enabling 24/7 uptime, automatic restarts, and seamless public access to both backend and UI services.

Stock Data ETL with Automated Scheduling and Reporting — August 2025
- Implemented an automated Python ETL pipeline to reliably ingest and process 2,000+ daily stock price records across multiple tickers, computing financial indicators and storing them in a structured warehouse for analysis.
- Automated daily reporting of market gainers/losers with Windows Task Scheduler, ensuring reproducible workflows.

GlobaLens – See Beyond the Headlines (Google Cloud Hackathon) — May 2025 – June 2025
- Developed AI-driven summarization and geospatial clustering pipelines using Python, Spark, and GCP to process over 100K news articles per day from BigQuery, reducing insight-discovery time from hours to minutes.
- Built a dynamic frontend using React and Vue.js, integrated with GCP services and MongoDB Atlas, containerized via GitHub Actions, and deployed Cloud Functions and infrastructure components using Terraform.

Speech Emotion Recognition for Enhanced AI Assistant Experience — January 2025 – April 2025
- Built a multimodal model (1D CNN + Bi-LSTM for audio, DistilBERT for text) achieving 97.2% accuracy, enabling AI to adapt tone and content dynamically.
- Curated balanced audio-text datasets (CREMA-D, TESS) and built evaluation metrics to ensure model generalization for diverse emotional contexts.

PUBLICATIONS & PRESENTATIONS

- An Efficient IoT-Blockchain Sharding using Frequently Transacting Sender and Receiver Information | IEEE | 2024
- Artificial Intelligence Application in Personalized Fintech | Kepes Journal | 2023

LEADERSHIP & EXTRACURRICULARS

Mentor, **Viterbi Graduate Mentorship Program** — July 2025 – Present
Member, **Society of Women Engineers** — December 2024 – Present