ADITYA PRASANNA MOGARE

Los Angeles, CA 90007, United States | mogare@usc.edu | +1(213)756-4828 | Linkedin | LeetCode | GitHub

EDUCATION

University of Southern California, Los Angeles **August 2024 - May 2026**
Master of Science in Computer Science **GPA 3.4/4.0**
Courses: Deep Learning, Natural Language Processing, Analysis of Algorithms
University of Mumbai, India **June 2020 - June 2024**
Bachelor of Engineering in Computer Engineering **GPA 9.63/10**
Courses: Algorithms & Data structures, Computer networks, Operating Systems, Database Management

SKILLS

- Programming Languages: Python,C, C++, JavaScript, Java, HTML, CSS, SQL
- Frameworks & Libraries: React.js, Angular, Express, Node.js, A-frame, Flask, TensorFlow, Scikit-Learn, Pandas, NumPy
- Databases: MongoDB, MySQL, PostgreSQL, SQLite
- Tools & DevOps: Docker, Kubernetes, Jenkins, Git, GitHub, GitLab, AWS (EC2, S3, Lambda), VS Code
- AI/ML**:** LLM fine-tuning (LoRA), Semantic Search, Transformers, CNNs, Gradient Boosting, RAG pipeline
- Workflow: Agile, DevOps, CI/CD, Version Control

PROFESSIONAL EXPERIENCE

INTERDEPENDENT, Onsite | Software Engineering Intern **May 2025 – August 2025**

- Collaborated directly with the founder to deliver production-ready software, translating creative product ideas into scalable full-stack solutions and accelerating development cycles across cross-functional teams.
- Built RESTful APIs using **Flask**, **JavaScript**, and **webhooks** to enable real-time collaboration on the **Miro platform**, applying principles of distributed systems and event-driven architecture.
- Developed interactive, full-stack applications using **React** and **Miro's Web SDK**, enhancing user experience and embedding intelligent workflows into collaborative digital canvases.
- Fine-tuned a **Transformer-based LLM** to automate screenplay evaluation and generate financial forecasts, helping reduce planning time by 60%
- Built an **AI-powered scheduling and budgeting tool**, enhancing operational agility across film production use cases.

Research Assistant | USC Viterbi School of Engineering **Feb 2025 – June 2025**
Prof. Anita Penkova | *Project: Diabetic Retinopathy*

- Engineered and refined OCTA image preprocessing workflows, including normalization, noise reduction, and data augmentation, improving image quality and boosting model performance with a +5% AUC increase on baseline CNN models
- Designed deep learning architectures (VGG, Inception, ResNet) for multi-class classification of Diabetic Retinopathy using TensorFlow and Scikit-learn, achieving 92% validation accuracy
- Utilized AWS EC2 and Docker for remote experimentation and model deployment

HiringTek, Remote | Software Engineering Intern – AI & Full Stack Development **Aug 2022 - Aug 2023**

- Developed a GPT-powered **question generation engine** with Flask and MongoDB, increasing content throughput **10×**
- Automated Kubernetes deployment across 4 environments, reducing setup and test cycles by **25%**.
- **Contributed to the Test Automation** pipeline by managing 30+ QA scripts and ensuring 95 %+ test coverage for mission-critical modules like QA Bank, Evaluation, and Candidate workflows.

PROJECTS & RESEARCH PAPER

Legal QA System with Fine-Tuned LLMs and RAG

- Deployed a scalable legal domain question-answering (QA) system by fine-tuning state-of-the-art open-source LLMs (e.g., LLaMA, Mistral) using Low-Rank Adaptation (LoRA), achieving a 4× reduction in GPU memory footprint and enabling cost-effective model training and deployment.
- Engineered end-to-end ML pipelines to ingest, preprocess, and index 100K+ U.S. legal documents, implementing semantic search vector stores and SentenceTransformers embeddings, resulting in sub-second document retrieval performance

EcomForecast: Empowering E-Commerce through Advanced Analytics and Forecasting

- **Developed EcomForecas**t, a platform using advanced time series models (SMA, EMA, WMA, LSTM, GRU) for precise sales forecasting.
- Qualified for the final round of presentations for International Confluence on Startups and Innovation (ICCSI-2023 CREST IITM) at IIT Madras Campus (December 13-15, 2023)

Building a Virtual Reality-Based Framework for the Education of Autistic Kids

- Implemented the research project under the National Initiative Program as per the Initiatives of the Ministry of Human Resource Development and AICTE using **A-Frame**, **JavaScript**, and **Neural Style Transfer**.
- Implemented in JavaScript and Python, utilizing WebVR APIs and ML libraries.