ADITHI SRINATH

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EDUCATION

Texas A&M College Station, Texas August 2024 - May 2026

MASTERS IN COMPUTER SCIENCE | ***CGPA: 4.0***
Software Engineering, Machine Learning, Deep Learning, Information Storage and Retrieval, Distributed Systems and Cloud Computing, Analysis of Algorithms

National Institute Of Technology, Karnataka July 2018 - May 2022

B.TECH. IN COMPUTER SCIENCE(With Honours); CGPA: 8.86/10, Honours ***CGPA: 9.8/10***
Relevant Courses and Skills: DSA, DBMS, OOPS, Linear Algebra, OS, Advanced Networking, Distributed and Parallel systems, ML, AI

TECHNICAL SKILLS

- **Programming:** Java, Python, Javascript, Typescript, Ruby, HTML5,CSS, MySQL, Bash, C, C++, Web Development, Unix/Linux,
- **Frameworks**: Spring Boot, ReactJS, Preact, Redux, WebPack, Oracle JET, AngularJS, NodeJS, Rails;
- **Technologies**: REST APIs, GraphQL, Redis, Docker, Kubernetes, Grafana, Kibana, ElasticSearch, JEST, Git, CI/CD, RabbitMQ, Kafka, ArgoCD, JMeter, Langchain, Hugging Face, Pinecone, Streamlit, TensorFlow, PyTorch, CoreFlow, Sklearn, API Design, Cloud: AWS, GCP, OCI

EXPERIENCE

AI Multidisciplinary Researcher - Graduate Research Assistant College Station, TX

LIVE Lab | Texas A&M University *Jan 2025 - Present*

- Conducted research on **generative AI workflows on GPU-accelerated HPC nodes** using **ComfyUI, Stable Diffusion, and CLIP**, analyzing how node-level parameter shifts affect visual patterns, glitch aesthetics, and latent space transitions.
- Developed and **open-sourced two custom ComfyUI nodes to enable multimodal generation**: one transforms image captions into music prompts using LLaMA-3.2-3B, and another generates ambient audio via Meta's MusicGen, forming a GPU-accelerated pipeline for synchronized video+audio synthesis.
- Deployed real-time multimodal generation pipelines on **TAMU HPRC(High Performance Research Computing) GPU clusters** using port forwarding; leading cross-disciplinary workshops to teach artists technical workflow design in ComfyUI.

Oracle Bangalore

Applications Engineer II | Full Stack Developer at Oracle Advertising *June 2022 - August 2024*

- Designed and maintained full-stack features using **Oracle JET, React/Redux, and Spring Boot** for high-throughput adtech systems (**DMP, DCP**), including audience delivery and campaign management.Handled 1000+ hours of on-call engineering, ensuring **99.97% uptime** for platforms processing **2M+ records/sec**; resolved delivery bugs impacting 600+ categories and multi-million CPM campaigns.
- Led development of a **Java-based Backend-for-Frontend (BFF)** service with secure **S2S authentication**; implemented efficient pagination, filtering, and infinite scroll on destination modules.
- Automated deployments using **GitLab CI/CD, Docker, and Kubernetes**; monitored performance with **Grafana** and ensured compliance for production systems.
- Recognized with an **"Outstanding" (5/5)** performance rating and awarded the **Oracle Spot Award** for contributions to mission-critical initiatives.

Oracle Bangalore

Application Development Intern *May. 2021 - July. 2021*

- Implemented **Redis-based API caching** in a Spring Boot Java application. Researched and implemented **optimal cache eviction policies in Redis**, enhancing data retrieval efficiency and minimizing latency.
- Conducted comprehensive **load testing using Apache JMeter to simulate high traffic conditions**. **Achieved significant reduction in response times by 30%** post Redis integration, improving overall API responsiveness and user experience.

PROJECTS

- **KraftMind AI – Synthetic Data Generation Platform (Hackathon, Impetus x AWS)**:
  - Designed a cloud-native GenAI pipeline for schema-aware synthetic data generation using AWS, Bedrock, SageMaker, OpenAI LLMs, CTGAN, and DP-GAN (Opacus) with **fine-tuned GANs** using scraped data.
  - Integrated a **Crawl4AI**-based scraper to extract and infer schema topics from real-world sources; used LLMs for profiling, distribution matching, and quality scoring; applied S3 tagging, IAM, and Bedrock Guardrails for compliant, explainable data pipelines.
- **NaviGaze – AI-powered safe route ranking with LLMs and risk-aware graph optimization** ***GitHub: NaviGaze-Link***:
  - Developed a multimodal navigation pipeline that reranks routes by combining YOLOv8-based object detection on satellite imagery with **LLM-driven contextual risk summarization** for dynamic hazard analysis.
  - Built a backend microservice in **Flask** to expose risk scores via REST API, and a **Folium-based frontend** that dynamically visualizes reranked paths and hazard-prone zones using A* path-finding algorithm.