SHRI HARISH SARAVANAN
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EDUCATION

Texas A&M University, College Station, TX ***08/25 – 05/27***
Master of Science in Computer Engineering *CGPA: 3.4/4.0*

- Coursework: Parallel Computing, Machine Learning Engineering, Software Reverse Engineering, Computer Architecture.

Madras Institute of Technology, Anna University ***08/20 – 05/ 24***
Bachelor of Engineering in Electronics and Communication *CGPA: 8.6/10.0*

- Coursework: Data Structures, Embedded Systems, Python Programming, Cloud Computing, Operating Systems, Digital Signal Processing, Computer Networks.

EXPERIENCE

Accolite Digital
Software Developer ***07/24 – 07/25***

- Built backend automation workflows in Node.js supporting authentication and user-management across 5+ enterprise services, improving system reliability by 30%.
- Designed and shipped 10+ modular RESTful APIs and shared utility libraries, reducing code duplication by 40% and accelerating test-suite development.
- Diagnosed and resolved 100+ production backend failures using HAR tracing and network logs, improving service reliability by 25% and reducing regression runtime to <10 minutes.

Software Intern ***01/24- 06/24***

- Developed and optimized ETL pipelines using Python, SQL, Snowflake, and Databricks, automating ingestion and transformation across 12+ datasets (~250 GB) and 40+ analytical tables.
- Improved data processing throughput by 40% and reduced query execution time by 30% through warehouse tuning, partitioning, and caching.
- Implemented data quality checks and validation rules that reduced pipeline failures by ~35% and prevented 20+ production data issues from reaching downstream dashboards.

PROJECTS

Deep Learning Enhanced RIS Configuration for Urban Scenario | *Python, Deep Learning, RIS*

- Developed a deep learning–based RIS configuration framework using a modified AlexNet CNN for 6G urban wireless systems.
- Achieved near-optimal data rates with only 4,000 training samples, simplifying dataset requirements by >86% compared to ANN-based methods.
- Validated performance on DeepMIMO ray-tracing data (28 GHz) and published results at IEEE ICNEWS 2024.

ML-Guided Regression Test Prioritization System | *Python, XGBoost, scikit-learn, SQL, FastAPI, Docker*

- Designed and implemented a backend API service with Redis-based caching and rate limiting, supporting 1,000+ requests/min under concurrent load.
- Reduced average API response latency by 45% by introducing cache-aside patterns and query optimization.
- Containerized services using Docker and implemented structured logging and health checks for production readiness.

Agentic AI Assistant with RAG Pipeline | *LLMs, LangChain, FAISS, OpenAI API, Flask, AWS Lambda*

- Built a Retrieval-Augmented Generation (RAG) pipeline for contextual question answering over documentation.
- Implemented embeddings-based search using FAISS and LangChain; reduced hallucinations by 35% compared to baseline LLM outputs.
- Integrated Flask API backend with secure query handling, caching, and audit logging to support Responsible AI principles.
- Deployed model to AWS Lambda, instrumented with monitoring and logging for latency and cost metrics.

PUBLICATIONS

- Shri Harish Saravanan, et al. “Deep Learning Enhanced RIS Configuration for Urban Scenario,” *IEEE Conference Publication*, IEEE Xplore, 2024.

SKILLS

- **Programming Languages**: C++, Python, Java, SQL, JavaScript/TypeScript
- **Web Technologies:** HTML/CSS, PHP, Django, Node.js, ReactJS, Android
- **ML/AI:** PyTorch, TensorFlow, Keras, NumPy, Pandas, FAISS, HuggingFace, OpenAI API, Scikit-learn
- **Operating Systems**: Windows, Ubuntu, VMware
- **Tools and Frameworks**: Visual Studio, Version Control (Git), Bitbucket, JIRA, Unity, Tableau, SQL, Pandas