Sudarshanan

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PROFILE

Master of IT (Intelligent Systems) student at RMIT University with 3 years of professional software engineering experience. Specialized in building AI-powered systems combining LLMs, retrieval pipelines, and scalable backend services. Experienced in designing end-to-end ML workflows, hybrid search (BM25 + FAISS), multi-agent orchestration, and reproducible experimentation. Passionate about building real-world AI applications that transform unstructured content into structured, intelligent systems.

SKILLS

Languages: Python, Java, SQL(PostgreSQL), Shell Scripting
AI/ML & LLM Engineering: TensorFlow, Scikit-Learn, Hugging Face Transformers, RAG, FAISS, BM25, Hybrid Retrieval, LLM orchestration & structured outputs
DevOps & Tools: Unix/Linux, React, FastAPI, Git, GitHub, CI/CD, Jenkins, Jira, AWS, Azure and Docker
Certification: Certified: Azure AI Fundamentals

EDUCATION

RMIT University July 2024 – August 2026
Master of Information Technology (Specialization: Intelligent Systems)

- **Relevant Coursework:** Semi-Structed & Un-Structed data, Machine Learning, Deep Learning, Artificial Intelligence, Practical Data Science with Python

St. Joseph's College of Engineering August 2017 – May 2021
Bachelor of Engineering in Electronics and Communication

- **CGPA:** 9.03/10 | **Rank:** 24/15,000 | **Placement Co-ordinator | Relevant Coursework:** Problem Solving & Python Programming, Data Structures in C, OOP, Computer Networks

WORK EXPERIENCE

Ribbon Communications Inc August 2021 – June 2024
Software Engineer →Senior Software Engineer Bangalore, India

- Built a Python-based test automation framework and a CLI configuration tool for the integrated Google Voice and Ribbon Session Border Controller solution, improving test efficiency by 50% and simplifying enterprise deployment.
- Automated end-to-end testing of Ribbon Session Border Controllers using REST APIs and real VoIP devices, ensuring seamless interoperability with platforms like Google Voice, BroadSoft, and Nice Server - resulting in a 40% increase in test coverage.
- Improved efficiency and reliability of Ribbon SBC deployment/upgrades on cloud platforms (AWS, Azure) by developing Python and Shell scripts for automation and integrating test suites into CI/CD pipelines using Jenkins, reducing manual effort and deployment time.

RELEVANT PROJECTS

Multi-Agent AI System for Structured Knowledge Extraction | Python, LLMs, FAISS, BM25, RRF/MMR

- Designed and implemented a modular multi-agent pipeline combining LLM query expansion, hybrid BM25+FAISS retrieval, LLM reranking, and stance classification, achieving a JS score of 0.308**.**
- Optimized retrieval and classification with RRF fusion, MMR diversity, RM3 feedback, and concurrency-controlled LLM calls; validated improvements through systematic ablation experiments.

Multimodal Deep Learning Model for Visual Entailment | Python, TensorFlow/Keras, NumPy, Pandas, Matplotlib

- Built a multimodal model combining BERT-Small and ResNet-101 with custom fusion layers (Gated Fusion, CBP, Transformer aggregation), achieving performance above benchmark.
- Developed a reproducible ML pipeline with tf.data preprocessing, stratified splits, experiment tracking, checkpointing, and two-stage fine-tuning; evaluated via confusion matrix and classification metrics.

White Blood Cell Classification (Multi-Task CNN) | Python, TensorFlow/Keras, NumPy, Pandas, Matplotlib

- Built a single multi-head CNN that classifies WBC type and predicts morphological features (cell shape, nucleus shape, cytoplasm vacuole) from microscopy images.
- Implemented transfer learning with a custom trainable head, class-balanced sampling, and data augmentation; tuned loss-weighting for multi-task optimization.