Badri Narayanan Murali Krishnan

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SUMMARY

AI/ML Engineer with an **MS in CS** and **1.5 YoE** delivering **production-grade GenAI solutions**. Experienced in taking AI products from **concept to deployment**, including **LLM fine-tuning**, **RAG**, and **multi-agent systems**, and building reliable, scalable AI applications.

INDUSTRY EXPERIENCE

Founding AI / ML Engineer **Sep 2025 – Present**
CuroNow *Madison, WI*

- **Architected** an **AI agent** to provide reliable medication safety insights using **LLM reasoning** & fallback handling.
- Built a **centralized AI microservice** with **caching** to eliminate **duplicate LLM calls** & **reduce API costs**.

AI / ML Engineer - Contract Role **Jun 2025 – Sep 2025**
BrainWaves Digital *Remote, USA*

- Lead engineer in creating a **Bank Statement Processing Engine** from **scratch** to extract financial data & insights.
- Deployed a **multi-model AI** stack comprising Gemini 2.5 Pro/Flash, GPT-4 with intelligent fallback mechanisms.
- Created a dashboard with **ReactJS**, **Supabase SSO** & **Firebase** to visualize the cash flow, balances, & transactions.

Associate Engineer – AI/ML **Jul 2022 – Jul 2023**
Qualcomm *Hyderabad, India*

- Introduced evaluation frameworks and metrics for ML models to enhance efficiency and accuracy by **10.26%**.
- Benchmarked **quantized** and **pruned models** on **Snapdragon SoCs** to assess latency, throughput, and power consumption under production workloads on SNPE (SnapDragon Neural Processing Engine).

INTERNSHIP AND RESEARCH EXPERIENCE

Graduate Research Assistant **Sep 2024 – May 2025**
University of Wisconsin – Madison *Madison, WI*

- Designed a scalable ingestion system for **80k+** medical documents, optimizing chunking, embedding, and retrieval.
- Developed an **Agentic RAG** pipeline tailored for radiology reports, enabling clinicians to gain diagnostic insights.
- Generated document embeddings and stored them in a **Vector DB**, serving **locally hosted LLMs** via **Ollama**.

Autonomous System Research Intern **Jun 2024 – Aug 2024**
Nokia Bell Labs *Murray Hill, NJ*

- Constructed a **multi-agent system** leveraging **autonomous agents** for adaptive learning & collaborative reasoning.
- Coordinated agent workflows with an **Orchestrator LLM** and **Chain-of-thought** prompting for multi-step planning and optimization. Agents executed specialized tasks via **tool-calling interfaces**
- Built the framework with **LangGraph** & **Streamlit** to visualize agent interactions and analyze emergent behaviors.

TECHNICAL SKILLS

GenAI Competencies: GenAI, LLM, LLM Fine-tuning, RAG, Multi-Agentic Systems, Prompt Engineering, Vector DB
Programming Languages: Python, C, C++
Frameworks & Tools: PyTorch, TensorFlow, LangChain, LangGraph, Spark, Git, Docker, Azure, AWS, GCP, CI/CD
Libraries: NumPy, pandas, matplotlib, scikit-learn, Streamlit, NLTK, spaCy, OpenCV

SELECTED PROJECTS

Relationship Extraction using Large Language Models *Repo*

- Fine-tuned **Llama 3.2 (8B)** to extract structured entity–relation triples from unstructured text, improving baseline **F1-score** performance by **7%** through multi-epoch fine-tuning and benchmarking.

Optimizing Natural Language Understanding: Fine-tuning Mistral 7B *Repo*

- Fine-tuned the **Mistral 7B** model on the Samantha conversational dataset using a **QLoRA** pipeline with **4-bit quantization** and integrated **W&B** for training metrics and checkpoints.

EDUCATION

University of Wisconsin-Madison **Sep 2023 – May 2025**
Master of Science - Computer Sciences; **CGPA: 3.827 / 4.0** *Madison, WI*
Courses: Intro to AI, Advanced NLP, Foundational Models, Big Data, Data Cleaning & Integration for Data Science.

SSN College of Engineering (Affiliated to Anna University), Chennai, India **Sep 2018 – May 2022**
B.Tech in Information Technology; **CGPA: 8.95 / 10.0** *Chennai, India*