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EXPERIENCE

AI / ML Engineer - Short-Term Contract   Jun 2025 – Sep 2025 (4 Mos)
BrainWaves Digital   *Remote, USA*
- Lead engineer in creating a **Bank Statement Processing Engine** from **scratch** to extract financial data & insights.
- Outlined **schemas** detailing extraction features, used **few-shot prompting** to categorize transactions.
- Created a dashboard with **ReactJS**, **Supabase SSO** & **Firebase** to visualize the cash flow, balances, & transactions.

Graduate Research Assistant   Sep 2024 – May 2025 (9 Mos)
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.
- Established an evaluation framework using **NDCG@5**, achieving a score of **0.857** on **1K+** radiology reports.

Autonomous System Research Intern   Jun 2024 – Aug 2024 (2 Mos)
Nokia Bell Labs   *Murray Hill, NJ*
- Constructed a **multi-agent system** leveraging **autonomous agents** for adaptive learning & collaborative reasoning.
- Built a **LangGraph** based framework where agents executed specialized tasks via **tool-calling interfaces**
- Deployed the framework with **Streamlit** to visualize agent interactions and analyze emergent behaviors.

Qualcomm   Jul 2022 – Jul 2023 (1 Yr)
Associate Engineer – AI/ML   *Hyderabad, India*
- Introduced evaluation frameworks and metrics for ML models to enhance efficiency and accuracy by **10.26%**.
- Collaborated with hardware and firmware teams to fine-tune and optimize AI workloads for mobile deployments.

Machine Learning Intern   Mar 2021 – Jun 2022 (1 Yr 4 Mos)
Mad Street Den (Vue.ai)   *Chennai, India*
- Engineered an **OCR + NLP** pipeline to extract structured data from unstructured documents with a **HITL** system.
- Our efforts reduced document processing time by **37%** while achieving **85%** end-to-end extraction accuracy.

Undergraduate Research Assistant   Feb 2020 – Jun 2022 (2 Yrs 5 Mos)
Bright Academy (Previously Solarillion Foundation)   *Chennai, India*
- Led the NLP team to translate German sign language weather videos into accurate German sentences.
- Built **Multi Context Transformer** trained on **8, 12, and 16 frame** sequences to capture temporal context.
- **30.88%** fewer model parameters than the SOTA, **98.19%** and **86.65%** retention for **ROUGE-L** and **BLEU-4**.

TECHNICAL SKILLS

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

SELECTED PROJECTS

Relationship Extraction using Large Language Models   ⊙ *Repo*
- Extracting complex relationships between entities from unstructured text data, by fine-tuning **Llama3.2 LLM**.

Optimizing Natural Language Understanding: Fine-tuning Mistral 7B   ⊙ *Repo*
- Fine-tuning **Mistral 7B LLM** on the Samantha dataset for conversational and contextual question answering.

SELECTED PUBLICATIONS

Palmbench: A comprehensive benchmark of compressed Large Language Models on mobile platforms
The Thirteenth International Conference on Learning Representations (ICLR), Singapore, 2025
Sign Language Translation using Multi Context Transformer.
20th *Mexican International Conference on Artificial Intelligence (MICAI), Mexico City, 2021*

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*