Manipal Institute of Technology, Bengaluru

Education

Manipal Institute of Technology

Bachelor of Technology in Computer Science, Artificial Intelligence

Experience

IBM

Winter Intern

- Designed an AI pipeline for automated handwritten answer sheet evaluation using LLaMA 3.2 Vision 90B and tested 7+ vision models, including EasyOCR, Tesseract, Pixtral, Gemini, and WatsonX Vision.
- Improved normal OCR accuracy by 88% with adaptive VLM model selection across Groq, Vertex AI, and WatsonX processing text as well as diagrams.
- Upgraded grading accuracy by using custom regex chunking cosine similarity and sentence transformers, resulting in a decrease of evaluation time per document by 90%
- Integrated IBM's Data Prep Kit (built on Docling) for large-scale PDF ingestion and processing reducing the ingestion time by 20% as compared to PyPDF2

Intel Technologies Pvt. Ltd.

Project Intern

- Developed **AI-powered internal tools** to optimize data processing and enhance model performance.
- Worked on **LLM fine-tuning** techniques for enterprise applications.
- Implemented Graph RAG for advanced data retrieval using Neo4j improving classical RAG by about 31%
- Created a natural language to SQL tool using Defog/SQLCoder-7B-2, improving accuracy by 23%.

IEEE EPICS

IEEE Research Intern

- Led a 20+ member team in designing a multi-terrain autonomous rover using LiDARs, sensors, and ML publishing a patent in the field.
- Managed **cross-functional collaboration** and technical development cycles for robotics.

Projects

IntelliGrade | Python, LLaMA 3.2 90B Vision, WatsonX, Sentence Transformers, NLP, Streamlit

- Constructed an AI pipeline for evaluating handwritten answer sheets, achieving 88% higher accuracy than traditional OCR with Streamlit Frontend
- Benchmarked handwriting recognition across 10+ Vision-Language models, including WatsonX, Pixtral, and Gemini.
- Applied a hybrid grading using cosine similarity for word overlapand sentence transformers for contextual matching.

EurekaMind | Python, LLaMA 3.3 70B, SerpAPI, Camel AI, Groq

- Automated AI-driven research workflows, including literature reviews and hypothesis generation saving up to 50% of the initial research time.
- Leveraged SerpAPI to scrape upto 15 research papers per call from ArXiv and Google Scholar.
- Prepared a multi-agent collaboration using Camel AI for research synthesis with 6+ agents
- A summarization module ranking the top 3 relevant papers.
- GitHub: github.com/ShiroYasha18/MultiagentResearchpaper

FraudSniff | Kafka, Redis, XGBoost, Testcontainers

- Proposed a real-time fraud detection system using Kafka, Redis, and XGBoost with 92.43% accuracy.
- Designed Kafka streams for transaction analysis and used Redis for pattern lookups comparing 5 unique features.
- Integrated **Testcontainers** for scalabe fraud detection testing.
- GitHub: github.com/ShiroYasha18/FraudTransactionDetection

BrainWave | Python, LLaMA-7B, DeepGram, Groq Cloud, Streamlit

- Made an AI-driven learning platform leveraging Groq's LPU for real-time podcast summarization.
- Composed **DeepGram** for speech-to-text with **89%** accuracy and **500ms** transcription latency.

Technical Skills

Languages: Python (Advanced), Java, C, C++, SQL

Technologies/Frameworks: Linux, GitHub, MongoDB, ChromaDB, Firebase, Keras, OpenCV, TensorFlow, LangChain, Figma, Neo4j, CUDA, LLMs, Hugging Face, Kaggle, Groq, Notion

Leadership / Extracurricular

Tech Solstice

Tech Lead Ops * Orchestrated event management for MIT BLR's 2023 Tech Fest, coordinating 50+ volunteers to successfully execute events with 1000+ participant engagement.

strategic planning that enhanced event operational efficiency and participant experience. CodeX

February 2023 – September 2023

AI Research Lead * Led the Research department of MIT's largest coding club, driving multiple successful technical events and research initiatives.

* Fostered innovation and technical skill development among peer researchers, expanding the club's technical capabilities.

August 2024

Sept 2023 - Sept 2024

March 2024 – September 2024

Bengaluru-Hybrid

Ongoing

Bengaluru

September 2024

April 2023



Sep. 2022 - May 2026

Dec 2024 - Present

Remote