

Yasar Arafat

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EDUCATION

Sathyabama Institute of Science and Technology

2020 – 2024

Bachelor of Engineering in Computer Science

SKILLS

Languages: Python, TypeScript, JavaScript, SQL, Bash, Java

Frameworks: Node.js, Express.js, Flask, FastAPI, Spring Boot

AI Frameworks: LangChain, Hugging Face Transformers, OpenAI API, PyTorch, TensorFlow, scikit-learn

LLM Infrastructure: Vector Databases, Pinecone, FAISS, Embeddings, Semantic Search

Libraries & Tools: React, Next.js, pandas, NumPy, Matplotlib, Jupyter Notebook

DevOps & Cloud: Docker, Git/GitHub, GitHub Actions, DigitalOcean, Azure

Databases: PostgreSQL, MongoDB, Redis

EXPERIENCE

Human Resocia Co., Ltd.

Nov 2024 – Present

Software Engineer — Assigned to Pacific Consultants Co., Ltd.

Tokyo, Japan

- Developed enterprise AI applications using LLM and RAG architectures for infrastructure and government research initiatives.
- Built an enterprise **Retrieval-Augmented Generation (RAG) assistant** integrating search, summarization, and Q&A across **400k+ construction-related documents**.
- Designed and implemented **LLM pipelines using LangChain and OpenAI APIs** to enable semantic search and AI-powered knowledge retrieval.
- Developed backend services using **Python, Express, and PostgreSQL vector search** and built frontend applications using **React and TypeScript**.
- Created multiple AI applications including **scenario-based presentation generation tools, document discrepancy detection systems, and automated proposal evaluation pipelines**.
- Implemented **local LLM pipelines** combining embedding models and OCR-based document extraction for automated analysis of technical and bidding documents.
- Containerized applications using **Docker** and implemented **CI/CD pipelines with GitHub Actions** for cloud deployment.

Cloud Counselage Pvt. Ltd.

Jul 2023 – Nov 2023

Full Stack Development Intern

Mumbai, India

- Developed a full-stack networking platform using the **MERN stack (MongoDB, Express, React, Node.js)**.
- Designed and implemented **REST APIs and database schemas** to support user networking and platform features.
- Deployed and tested the application using **Azure cloud services** while working in an agile development team.

PROJECTS

Enterprise RAG AI Assistant

2024

Python, LangChain, OpenAI API, React, TypeScript, PostgreSQL, Docker, GitHub Actions, DigitalOcean

- Developed an enterprise Retrieval-Augmented Generation (RAG) assistant integrating search, summarization, and Q&A across **400,000 construction-related documents**.
- Designed RAG workflows using **LangChain and OpenAI APIs** with PostgreSQL vector search for semantic retrieval.

- Built backend APIs using **Python and Express** and implemented frontend interfaces using **React and TypeScript**.
- Containerized the application with Docker and implemented CI/CD pipelines using GitHub Actions for cloud deployment.

AI Scenario-Based Presentation Generator

2025

Python, TypeScript, Azure, PostgreSQL (pgvector), AI Agents

- Developed a conversational AI system capable of generating structured presentations through natural language interaction.
- Implemented RAG-based AI workflows enabling users to generate PowerPoint and Word documents automatically.
- Integrated pgvector-based semantic retrieval with PostgreSQL and deployed the system using Azure cloud services.
- Designed secure infrastructure using Azure Web Apps, Functions, Application Gateway, and Virtual Network.

Local LLM Document Analysis & Evaluation System

2025

Python, Local LLMs, Embedding Models, OCR, HuggingFace, LM Studio, NVIDIA GPU

- Researched and developed local LLM workflows to automate analysis of technical and bidding documents for government research initiatives.
- Built pipelines combining **OCR/TSR document extraction, embedding models, and local LLM inference** for semantic document understanding.
- Implemented an AI system for **discrepancy detection** in technical documents using LLM-based reasoning.
- Developed an automated **bidding proposal scoring system** that extracts evaluation criteria from tender guidelines and assigns scores to technical proposals.
- Created end-to-end automated workflows using batch scripts for model loading, document processing, scoring, and structured report generation.

Cross-Modal Translation based on Triangle GAN | TensorFlow, PyTorch, Python, VS Code

2023

Supervisor : Prof.Albert Mayan, Sathyabama University

 [github](#)  [presentation](#)  [report](#)

- Developed a novel deep learning model utilizing Cascade Attention Guided Residue GAN architecture to facilitate cross-modal translation.
- Utilized the subURMP dataset to train and evaluate the model's performance in translating images between different modalities while preserving semantic content.
- Achieved strong results demonstrating improved semantic preservation across translated modalities.

Code Mixed Sentiment Analysis | Python, XLM-R, Deep Learning, VS Code

2024

Supervisor : Prof.Viji Amutha Mary, Sathyabama University

 [github](#)  [presentation](#)  [report](#)

- Developed a sentiment analysis solution for code-mixed text using self-attention mechanism to bolster the performance of prevalent CNN architecture by creating an ensemble model.
- Utilized multilingual XLM-Roberta Language Model (a variant of Bert) for sub-word embeddings.
- Achieved F1 score and recall of 0.707 and 0.705 respectively for Hinglish dataset.

PUBLICATIONS

Code Mixed Sentiment Analysis

2024

Yasar Arafat E, Arjun A, Dr.Viji Amutha Mary

 [github](#)  [presentation](#)  [paper](#)

- International Conference on Role of Artificial Intelligence and IoT in Engineering, Technology and Science 2024 (ICRAETS'24).

LANGUAGES

English: Proficient

Japanese: Professional Working Proficiency

Tamil: Proficient

Hindi: Proficient

CERTIFICATIONS

- Microsoft Certified: Azure Fundamentals
- Microsoft Certified: Azure AI Fundamentals
- Microsoft Certified: Fabric Analytics Engineer Associate
- Coursera - Stanford University: Algorithms Specialization
- Coursera – Google: Data Analytics Specialization
- Coursera – Google: Cybersecurity Specialization
- Coursera – Google: UX Design Specialization
- Coursera – IBM: Machine Learning Specialization
- Coursera – DeepLearning.AI: TensorFlow Developer Specialization
- Coursera – University of Michigan: Python Data Structures