

Imthadh Ahamed

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About Myself

Experienced Software Developer proficient in **Python, C# and JavaScript** and with a strong foundation in web development, data analysis, and machine learning. Adept at using modern frameworks like **.NET, React, Next, Node.js, and Django** to deliver high-quality software solutions. Proven ability to lead projects and teams, with successful implementations of dynamic web applications and data management systems. Strong advocate for agile methodologies, with extensive experience in collaborative, agile environments. I have a deep understanding of **Clean Architecture and SOLID principles**, ensuring scalable, maintainable, and efficient software solutions. Committed to continuous learning and contributing to real-world projects.

Technologies

Languages: C#, Java, Python, TypeScript/JavaScript, SQL

Backend: .NET, FastAPI, Node/Express, NestJS, REST, JWT, Async I/O

AI/LLM: LangGraph/LangChain, RAG (ChromaDB/FAISS), Embeddings, Prompt design

Frontend: React, Next.js, Tailwind

Data/Stores: PostgreSQL, MongoDB, MySQL, VectorDB

DevOps/Cloud: Docker, Docker Compose, GitHub Actions, Vercel, Azure, AWS

Experiences

Business Transformation Executive - AI Software Engineer, Jay Jay Mills Lanka PVT LTD May 2025 – Present

- Developed and maintained full-stack applications using Next.js, Node.js, Express.js, and PostgreSQL, ensuring high performance and scalability.
- Designed and implemented RESTful APIs and integrated AI-driven features into applications for enhanced user experience and automation.
- Built and containerized services using Docker, managing local development environments and deployment readiness.
- Integrated AI APIs and custom ML solutions, enhancing system intelligence and functionality.
- Employed Git and GitHub for version control, ensuring efficient collaboration and codebase management.
- Collaborated with cross-functional teams in an agile development environment, ensuring timely delivery of robust software solutions.

Junior Software Engineer, Tassei Tech Mar 2025 – Apr 2025

- Developed and maintained scalable backend solutions using .NET 9, Dapper, MySQL, and MongoDB, ensuring high performance and reliability.
- Designed and optimized RESTful APIs, implementing CQRS, Clean Architecture, and SOLID principles for maintainable software architecture.
- Managed cloud infrastructure with Azure Kubernetes Service (AKS), optimizing containerized deployments for scalability and resilience.
- Experienced in SOLID principles and CQRS, ensuring maintainable and scalable software design.
- Integrated Azure Blob Storage for efficient cloud storage and Azure Service Bus for reliable messaging solutions.
- Collaborated with cross-functional teams in an agile environment, improving workflows and ensuring on-time project delivery.

Intern Software Engineer, Expernetic PVT LTD

Jul 2024 – Mar 2025

- Developed and maintained backend solutions using MySQL, .NET, and Azure, ensuring scalability and performance
- Used React.tsx and React RTK Query for efficient state management and data integration.
- Specialized in API development, database management, system optimization, following Clean Architecture and SOLID principles.
- Experienced in SOLID principles and CQRS, ensuring maintainable and scalable software design.
- Worked with Azure Blob Storage and Azure Service Bus for cloud storage and messaging solutions.
- Collaborated in agile teams, improving workflows and ensuring timely project delivery.

Data Management Coordinator, Corporate Services (PVT) LTD

Jan 2024 – May 2024

- Led a team of data entry specialists, increasing data accuracy by 20%
- Collaborated with a team to streamline content production, reducing turnaround time by 15%.
- Developed a comprehensive dashboard using MS Excel and Power BI to enhance data visibility and streamline categorization processes by 30%.
- Refined categorization processes, ensuring seamless operations and improved data management
- Coordinated among team members to improve workflow efficiency and collaboration
- Led and organized data management tasks using GitHub, Power BI and Excel improving data accuracy and team efficiency

Education

Sri Lanka Institute of Information Technology (SLIIT)

2022 – 2026

- BSc (Hons) in Information Technology

KM/ Zahira College Kalmunai

2011 – 2019

- Physical Science

Projects

Career Guidance for Non-Traditional Students (Research Project – Final Year, SLIIT) - Ongoing

- Designed and implemented an AI-powered Learn-to-Earn Diagram Generator to guide Sri Lankan learners without O/L or A/L qualifications toward personalized, skill-based career pathways. Built an adaptive survey and capability test system to capture learner profiles and assess readiness. Applied machine learning models (KNN, Decision Tree) and a Retrieval-Augmented Generation (RAG) pipeline to recommend suitable vocational and educational options. Developed an eligibility filtering and ROI estimation engine, helping learners prioritize financially viable career paths based on course cost, salary expectations, and time to recovery. Integrated Large Language Models (LLMs) to user-friendly explanations and visualized career roadmaps, making guidance accessible even for learners with low digital literacy. Delivered a prototype web platform featuring ranked recommendations, ROI insights, interactive roadmaps, and milestone tracking, addressing structural gaps in Sri Lanka's education-to-employment ecosystem.
- Tools Used: Python, scikit-learn, RAG pipeline, Next.js, FastAPI, Node.js, PostgreSQL/NoSQL, OpenAI, LangChain, Docker, Azure

Multi-Agent Travel Assistant System

[Repo Link](#)

- Developed a production-ready AI agent ecosystem using LangChain/LangGraph, evolving from rule-based to self-improving agents with 85%+ quality scores. Built RAG-enhanced travel planning with vector search (ChromaDB), real-time API integrations (weather/flights), and personalized recommendations. Implemented enterprise-grade architecture: FastAPI backend, PostgreSQL/Redis, JWT auth, and Docker deployment with nginx load balancing. Created real-time analytics dashboard (Streamlit) showing system performance, user interactions, and agent improvement metrics.
- Tools Used: Python, LangChain, FastAPI, PostgreSQL, Redis, Streamlit, Docker

AutoCurate - AI-Powered Knowledge Feed

[Repo Link](#)

- Developed an AI-driven content curation system that scrapes, processes, and delivers personalized summaries using RAG (Retrieval-Augmented Generation) with 90% user satisfaction. Built smart ingestion pipelines for diverse content (articles, blogs, papers) with NLP cleaning, vector embeddings (FAISS/Pinecone), and adaptive preference learning. Designed dynamic user profiling via interactive surveys and continuous feedback analysis to refine recommendations. Implemented production-ready architecture with FastAPI, Celery task queues, and PostgreSQL/Supabase, processing 500+ articles daily.
- Tools Used: Python, FastAPI, OpenAI GPT-4, LangChain, PostgreSQL, FAISS, Celery

Water Treatment Prediction System

[Repo Link](#)

- Developed a full-stack AI-powered web app using Next.js, Node.js, and FastAPI to predict water quality (pH, turbidity, colour) in real-time. Built a scalable three-tier architecture with a Python/ML backend, Express.js middleware, and a responsive Next.js frontend. Trained ML models to analyze 9+ water parameters (alkalinity, chloramines, etc.) with >90% accuracy, deployed via FastAPI. Implemented robust REST APIs with validation, error handling, and health checks. Designed an intuitive UI with dynamic forms (Tailwind CSS), real-time results, and Docker support for seamless deployment.
- Tools Used: Next.js, Node.js, Express.js, FastAPI, Python (Pandas/Scikit-learn), Tailwind CSS, Docker

NLP Sentiment Analysis with API Deployment

[Repo Link](#)

- Built an end-to-end sentiment analysis system for IMDB reviews using Logistic Regression (88.5% accuracy) with Flask/FastAPI deployment. Designed scalable 3-tier architecture: Next.js frontend, Python/ML backend (NLTK, scikit-learn), and REST API middleware. Implemented features like batch processing, confidence scoring, and real-time analysis with Docker containerization.
- Tools Used: Python, Flask, FastAPI, scikit-learn, Next.js, Docker, NLTK

Neural Machine Translation (NMT) System

[Repo Link](#)

- Developed a full-stack English↔Tamil translation system using T5 Transformer model, achieving 100-500ms inference speed. Built production-ready FastAPI backend with real-time/batch processing and Next.js frontend with responsive UI (Tailwind CSS). Implemented complete model lifecycle: custom training (Jupyter), evaluation, and deployment via Docker. Optimized system for 50+ concurrent users with model caching, health monitoring, and comprehensive API documentation.
- Tools Used: Python, FastAPI, Transformers (T5), Next.js, Docker, Beam Search

Object Detection with YOLOv5

[Repo Link](#)

- Developed an end-to-end object detection system using YOLOv5, achieving 93% accuracy with 0.19s inference time on high-res images (3461×2150px). Built a full-stack application with Next.js/Tailwind CSS frontend and FastAPI backend, featuring real-time detection, adjustable confidence thresholds, and downloadable results. Implemented 80 COCO class detection (animals, vehicles, people) with precise bounding boxes, supporting both single and batch image processing. Containerized the system using Docker for production deployment and optimized performance for 50+ concurrent users.
- Tools Used: Python, PyTorch, YOLOv5, FastAPI, Next.js, Docker, OpenCV

WorkPulse – HR Management System

[Repo Link](#)

- Developed a scalable multi-tenant HR management system using the MERN stack (MongoDB, Express, Next.js, Node.js). Implemented task tracking features and automated daily task summary emails to HR using cron jobs. Added AI-powered suggestions and predictive insights for task trends, enhancing HR's decision-making process. Designed for extensibility, with tenant-based data separation and performance-optimized backend architecture.
- Tools Used: MongoDB, Express.js, Next.js, Node.js, Axios, AI (predictive models), Cron Jobs

Weather Report Service

[Repo Link](#)

- Developed an automated weather report service using Node.js, Express, and MongoDB, enabling users to register and receive personalized weather updates based on their location. Integrated the OpenWeatherMap API for real-time data and Google Gemini AI for generating detailed weather reports. Implemented a cron job to send regular email updates to over 100 users every 3 hours. Ensured reliable storage of weather data and reports in MongoDB, focusing on accuracy and timely delivery to enhance user experience.
- Tools Used: Node.js, Express.js, OpenWeatherMap API and Gemini AI

LICENCES & CERTIFICATIONS

- AI/ML Engineer – Stage 1
- AI/ML Engineer – Stage 2
- AWS Academy Graduate - Cloud Web Application Builder - Training Badge

REFERENCES

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