

Usama Puward

📍 Colombo, Sri Lanka | ✉ usamafuward2001@gmail.com | ☎ 076 626 0507 | 🌐 Portfolio Website

in usama-puward | 🌱 Usamafuward

Profile

AI/ML Engineer Intern and Software Developer with a Computer Science background, experience in Machine Learning and Artificial Intelligence. Dedicated to developing innovative, scalable solutions, tackling complex challenges, and driving real-world impact through collaboration and continuous learning.

[Explore more of my works] [🔗](#).

Education

BSc in Computer Science, University of Colombo

May 2022 – Aug 2025

- **Coursework:** Software Engineering, Data Structure and Algorithms, Machine Learning and Neural Computing, Middleware Architecture, SQA, DBMS

Professional Experience

AI/ML Engineer Intern, Kainovation Technologies – Colombo, Sri Lanka

Nov 2024 – Present

- Designed and implemented the **Support AI Assistant**, a full-stack conversational AI with chat and voice support, using **Next.js** (frontend) and **FastAPI** (backend) integrated with **OpenAI Realtime API**, **Gemini**, and **vector stores**, delivering real-time, context-aware support for customers and employees
- Built an **Intelligent Document OCR Solution** with **FastHTML** (frontend) and **FastAPI** (backend), integrating **Gemini and OpenAI OCR models** to extract data from handwritten and printed documents with high accuracy
- Developed **Voice AI solutions** (AI Recruitment Assistant, AI Insurance Agent, AI Receptionist) with **Next.js** (frontend) and **FastAPI + Hume AI** (backend), enabling automated interviews, policy explanation, and real-time voice-enabled scheduling with calendar sync
- Created the **SAP Invoice Automation** frontend in **FastHTML**, streamlining invoice upload and formatting for SAP-ready outputs, improving accuracy and reducing manual data entry
- Developed the **InsurePulse landing website** using **React and Next.js**, delivering a responsive, SEO-optimized showcase for the platform's reporting and analytics features
- Independently developed the **official Kainovation Technologies website** in **Next.js**, achieving optimized performance, SEO visibility, and a fully responsive user experience

Contract Software Developer, Edus Lanka (PVT) LTD – Jaffna, Sri Lanka

Nov 2024 – Jan 2025

- Contributed to the development of **Mediman – Doctor Patient Clinic Online Appointment System**, a **full-stack MERN project**
- Built the frontend using **React and Next.js**, delivering a responsive and user-friendly interface for appointment booking, patient management, and real-time doctor-patient communication
- Implemented **payment gateway integration** for secure online transactions, ensuring smooth and reliable payment flows
- Developed the **admin dashboard** for doctors and staff, enabling efficient management of appointments, patients, and system configurations

Projects

AI-Powered Multi-Agent Coding Assistant

github.com/Usamafuward [🔗](#)

- Developed an advanced AI-driven assistant using multiple autonomous agents to help developers write, debug, and document code efficiently
- Integrated OpenAI GPT models with FastAPI and GitHub API for real-time code collaboration and automation
- Tools Used: AutoGen, OpenAI GPT, FastAPI, LangChain, FAISS, GitHub API

RAG Pipeline for PDF Analysis (Chatbot)

github.com/Usamafuward [↗](#)

- Built a RAG pipeline to extract and analyze text, tables, and images from PDFs
- Enabled intelligent querying through a chatbot using multimodal embeddings and Google Generative AI
- Tools Used: LangChain, Google GEN AI, FAISS, Streamlit, Python

NLP Podcast Chatbot

github.com/Usamafuward [↗](#)

- Created a chatbot that analyzes podcast transcripts to answer user queries and attribute responses to speakers
- Applied TF-IDF and VADER sentiment analysis for contextual understanding and response accuracy
- Tools Used: Flask, TF-IDF, VADER, NLTK

Technologies

Languages: Python, JavaScript, TypeScript, C++ , SQL

AI/ML: TensorFlow, OpenAI API, Gemini, Hume AI, Pandas, NumPy, OpenCV, LangChain, Vector Databases

Frontend: React, Next.js, React Native, FastHTML, HTML/CSS, Tailwind CSS

Backend: FastAPI, Node.js, Express, Django, MongoDB, PostgreSQL

Cloud & DevOps: Microsoft Azure, Git, Docker, RESTful APIs

Certifications

Machine Learning Specialization [↗](#)

DeepLearning.AI & Stanford

Introduction to TensorFlow [↗](#), **CNNs in TensorFlow** [↗](#)

DeepLearning.AI

Artificial Intelligence on Microsoft Azure [↗](#)

Microsoft

Meta React Specialization [↗](#)

Meta

30 Days MasterClass in Artificial Intelligence [↗](#)

NoviTech R&D

Mastering Multi-Agent Development with AutoGen [↗](#)

Packt

Introduction to Front-End Development [↗](#), **Introduction to Mobile Development** [↗](#)

Meta

Azure Fundamentals Training [↗](#)

Styava

Developing Back-End Apps with Node.js and Express [↗](#)

IBM

DevOps Essentials and Version Control with Git [↗](#)

Edureka

Programming with JavaScript [↗](#), **Version Control** [↗](#)

Meta

Introduction to Generative AI [↗](#), **Introduction to Large Language Models** [↗](#),
Introduction to Responsible AI [↗](#)

Google Cloud

References

Mr. M.R. Sajeer Ahamed – MSc in Computer Science, Nottingham Trent University
Software Development Engineer, Amazon, London, UK

- Email: sajeer.riyaf@gmail.com [↗](#), Phone: +44 731 094 1277 [↗](#)
- LinkedIn Profile [↗](#)

Mr. D.T. Bamunuarachchi – MSc in Computer Science, University of Colombo
Lecturer, University of Colombo School of Computing

- Email: tmk@ucsc.cmb.ac.lk [↗](#), Phone: +94 77 331 1798 [↗](#)
- LinkedIn Profile [↗](#)