

Nisuga Jayawardana

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ABOUT ME

Disciplined Software Engineer with over 5 years of experience specialising in **Backend development** and **GenAI RAG/Agentic workflows**. Proven track record of delivering an AI Assistant for a **UK government client**, developing a large-scale alarm data management system for a **telco org**, and optimising data migration systems of an **ERP application(IFS)**. I combine a deep background in **Python** with modern frontend frameworks such as **React** to build **high-performance, scalable, full-stack** products that solve complex real-world problems.

WORK EXPERIENCE

Resource Media

Bristol, UK

AI Apps & Web Developer

Dec 2023 - Present

- Directly working with the CEO and the IT team, actively engaging with project planning, technical planning and execution for multiple industrial and client projects.

Engineering GenAI Assistants for UK GOV and non-GOV clients within the circular economy domain

- Launched an AI Assistant for the **North London Waste Authority** (<https://www.nlwa.gov.uk/>). Leading the end-to-end software life cycle, including security.
- Mainly engineering GenAI Knowledge base administration/management applications, and GenAI-backed AI Assistants to support the private and government organisations(UK & European) in the Circular Economy domain.
- Extensively applied cutting-edge, advanced GenAI RAG techniques such as hybrid search, reranking, document parsing with docling, review agents, chat summarisation agents.
- Extensively improved the RAG Pipeline with parallel processing steps, database indexing (HNSW, GIN), and Vector embeddings caching to generate useful AI answers within 2-6 seconds.
- Leveraged FastAPI, LangChain, PostgreSQL, pgvector extension, and Docker for the backend development.
- Leveraged React and the Vite bundling tool to craft the frontend widget application with two embed modes(inline, floating) for client websites.
- Secured the frontend widget application and API backend with a strict Authentication layer, advanced Injection(SQL, Command, ORM) attack prevention based on best practices, XSS attack prevention, strict Input Validation and real-time security threat alerts/monitoring, etc.
- Integrated Google Model Armor to stop prompt injection attacks, sensitive data leaks, and harmful content.
- Applied advanced infrastructure and server security best practices such as routine vulnerability assessments, threat monitoring/logging, code scanning, backups, rate limiting, least privileged access and many more.

High-performance, modern Website engineering

- Architected and launched the new official website of the current company (resourcemedia.eco) using AstroJS, Svelte, React, Netlify and Sanity CMS.
- Leveraged advanced HTML and web asset caching mechanisms and advanced frontend optimisation techniques(web bundling, minifying assets, webp images, reducing main thread load, etc.) to achieve a **0.5-1 second page load speed**.

Side support for WordPress website development and SLA support

- Crafted and deployed custom websites for business clients (resourcefutures.co.uk, bb-reg-net.org.uk, bbia.org.uk)

IFS R&D

Colombo, Sri Lanka

Software Engineer, Data team

Jan 2022 - Jan 2023

- Enhanced performance of **IFS Data Migration Manager**, achieving a 3x faster overall processing speed.
- Enhanced the data migration process by implementing a revised table definition build process that addresses critical bugs in the **IFS Data Migration Manager**.

- Leveraged unit testing to improve the functioning accuracy of IFS Data Migration Manager and IFS Data Catalog.

X.O Concepts

Colombo, Sri Lanka

Software Developer

Jan 2021 - Aug 2021

- Developed a nationwide Cell Tower Alarm Management Application for a major telecommunication provider (Dialog PLC). Successfully solved critical Kafka issues with their network operations team.
- Designed and crafted a crop management dashboard for an Agri company (Viridio)

Omobio, Sri Lanka

Nov 2019 - May 2020

Internship - Full-stack developer

- Contributed to multiple projects of the Digital AD-Platform System (adReach).
- Crafted an Interview Management Portal for the Company's HR Division.
- Gained valuable experience in SCRUM, Git, Task Management, React, Yii, ExtJS, and Material-UI.

Arimac Digital - 3D Designer

Nov 2018 - Feb 2019

- Collobarated with design and animation teams.
- Modelled/textured 3D models using Autodesk Maya and Substance Painter.
 - Models for SL Army Exhibition 2018 3D Video
 - Models for Dialog AR Calendar 2019.
 - 3D Models (Military boat, Electric crane) for Nero - 3D Game.

EDUCATION

University of the West of England

Bristol, UK

MSc in Information Technology

Graduation Date: Feb 2024

Sri Lanka Institute of Information Technology

Colombo, Sri Lanka

BSc. (Hons) in Software Engineering

Graduation Date: Mar 2022

SKILLS

Frontend: React, ReactNative, Svelte, AstroJS

Backend: Python(incl. FastAPI), NestJS, NodeJS, Java (J2EE & Springboot)

Infra: Terraform, Docker

Cloud: AWS(EC2, SNS, S3, Route53), Google Cloud (Compute Engine, MapsAPI, VertexAI)

Database: MySQL, PostgreSQL, MongoDB

CERTIFICATES

- Docker Mastery: with Kubernetes +Swarm
- Programming Foundations: Algorithms
- Continuous Integration and Continuous Delivery with GitLab
- Claude Code 4: Agentic Coding for Professional Developers

SPORTS/HOBBIES/INTERESTS

- A badminton player with a track record of winning all-island, inter-school badminton team championships
- A fan of cats and aviation
- Cricket, Table tennis
- Travelling and gatherings