

WARUNA MADUSHAN

Software Engineer | Senior Software Engineer | AI/ML Engineer

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PROFESSIONAL SUMMARY

Software Engineer with 10+ years of experience designing and deploying AI-driven applications, ML-integrated backend systems, responsive frontends and scalable cloud platforms. Currently building expertise in **Generative AI, LLM integration, RAG architectures, LangChain, vector databases**, and AI-powered enterprise applications. Strong expertise in **Python, PHP and Java** including **FastAPI, Laravel, and Spring Boot**, along with modern frontend development using **React.js and JavaScript** to deliver full-stack solutions. Experienced in designing **microservices architectures**, enterprise REST APIs, and high-performance systems using **AWS, Docker, Kafka, and Redis**. Proven ability to lead engineering teams, architect production-grade platforms, optimize system performance, and deliver reliable, scalable, high-availability software solutions.

CORE TECHNICAL SKILLS

Languages: Python, PHP, Java, JavaScript

Frameworks: FastAPI, Flask, Django, Laravel, Spring Boot, Node.js (Express)

Frontend: ReactJS, Bootstrap, jQuery

Databases: MySQL, PostgreSQL, MongoDB

Cloud & DevOps: AWS EC2, Docker, Kubernetes, GitHub Actions, Jenkins, CI/CD

Messaging & Caching: Kafka, Redis

API & Security: REST APIs, JWT, OAuth, API Gateway, RBAC

Tools: Git, SonarQube, Postman, Linux

AI & ML: Generative AI, Large Language Models (LLMs), OpenAI, API Anthropic, Claude API, Groq API, LangChain, LangGraph, RAG Architecture, Vector Databases, Prompt Engineering, Hugging Face, LLM Fine-Tuning Fundamentals

PROFESSIONAL EXPERIENCE

Ants Creation (Pvt) Ltd — Tech Lead

Jan 2022 – Present

- Led a team of 5+ engineers delivering scalable AI-powered enterprise applications, full-stack platforms (ReactJS), and microservices solutions.
- Designed and developed ML-ready architectures using Python (FastAPI), Spring Boot, Laravel, Kafka, Redis, Docker, AWS, and cloud-native technologies.
- Built high-performance APIs for AI model integration, prediction services, data pipelines, and large-scale enterprise applications with reliable model serving.
- Automated CI/CD pipelines using GitHub Actions and Jenkins, improved code quality with SonarQube, and optimized deployment efficiency by 60%.
- Designed scalable backend systems, database architectures, API contracts, and mentored engineers through code reviews, best practices, and performance optimization.

Senior Software Developer

Mar 2020 – Dec 2021

- Developed scalable backend and AI-powered applications using FastAPI, PyTorch, OpenAI API, Laravel, Spring Boot, MySQL, PostgreSQL, and ReactJS.

- Optimized SQL queries and indexing, improving API performance by 35%.
- Built RESTful APIs and integrated frontend (ReactJS) with backend and AI services.
- Deployed containerized applications on AWS EC2 using Docker for scalable production environments.
- Mentored junior engineers on Git workflows, debugging, and backend best practices.

Core Developer

Apr 2019 – Mar 2020

- Built full-stack e-commerce, booking, and enterprise features with Vue.js and backend services, integrating Stripe, PayPal, and local payments.
- Implemented JWT, RBAC, database design, and system performance across the stack.

Web Developer

Aug 2016 – Apr 2019

- Developed responsive web applications using PHP, Laravel, JavaScript, Bootstrap
- Built custom CMS modules for clients and Improved UI/UX, increasing user retention by 20%

iDesign Solution — Web Application Developer

Jul 2015 – Jul 2016

- Built SME web applications using PHP, CodeIgniter, MySQL
- Developed inventory and booking systems and delivered projects on time with high client satisfaction

Ministry of Defense – Sri Lanka — Computer Application Assistant (Internship)

Jul 2013 – Jan 2014

KEY PROJECTS

ERP System (FastAPI, Laravel, Spring Boot)

- Led the design and development of an ERP platform using microservices architecture, delivering scalable and maintainable backend solutions.

Enterprise AI Knowledge Assistant

- Designed and implemented an enterprise-grade AI knowledge assistant using **FastAPI, LangChain, RAG architecture, vector search**, and cloud deployment practices.

Crop Forecasting Fullstack System (Spring Boot, ReactJS, FastAPI)

- Built an agricultural forecasting platform integrating a **Python ML model** to predict crop sales and demand. Used **ARIMA** from statsmodels for forecasting sales data.

Kafka-Based Mailbox API Solution (FastAPI, Kafka, Redis, Docker)

- Developed a scalable messaging backend for sending, receiving, and storing messages

EDUCATION

Bachelor of Technology (B.Tech) – Software Technology

University of Vocational Technology | 2017 – 2022

NVQ Level 5 – Diploma in ICT

College of Technology, Maradana | 2014 – 2015

GCE Advanced Level – Commerce

Bandaranayake College, Gampaha | 2011