Udara Kavishka Nalawansa

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Personal Statement

- First Class IT graduate and Associate Software Engineer working day to day in Python, building REST APIs with FastAPI and Flask on PostgreSQL behind Next.js and TypeScript frontends.
- Delivers features end to end across frontend, backend, and infrastructure, deploying with Docker and CI/CD pipelines and resolving live production issues.
- Final year research applied deep learning and continual learning to Kubernetes autoscaling.
- Works with a product mindset: asks what problem sits behind a request, weighs scope against what users and the business actually need, and stays with a feature from requirement through deployment and the support that follows. Seeking a software engineering, AI engineering, or related role.

Education

BSc (Hons) Information Technology, University of Vavuniya 2022 – 2026
First Class, GPA 3.75 | former Vavuniya Campus of the University of Jaffna

St Joseph's College, Colombo 10 2005 – 2020

Skills

Programming: Python, Java, JavaScript, TypeScript, Bash, Go
Frontend Technologies: React.js, Next.js, HTML, TailwindCSS, TanStack Query, React Native
Backend Technologies: FastAPI, Flask, SQLAlchemy, Node.js, Express.js, Alembic, Pydantic, REST APIs
AI & LLM: RAG, LangGraph, Qdrant, Streamlit, Groq, Keras, MLflow
Databases: PostgreSQL, MySQL, MongoDB
DevOps & Cloud: Docker, Docker Compose, Podman, Kubernetes, Linux, AWS, GCP, Cloudflare
CI/CD & Automation: GitHub Actions (self-hosted runners), Jenkins, GitLab CLI, ArgoCD, Terraform, Ansible
Monitoring: Prometheus, Grafana, Sentry, ELK Stack
Tools: Git, GitHub, Claude Code (agentic coding), MCP, Postman, OpenAPI, Figma
Soft Skills: Leadership, Teamwork, Problem Solving, Adaptability, Presentation, Time Management

Professional Experience

Xaventra (Private) Limited, Colombo Feb 2026 – Present
Associate Software Engineer

- Building and maintaining a company secretarial and business compliance platform, spanning a Flask admin CRM, a FastAPI backend, and a Next.js client portal and marketing site, shipping 200+ merged pull requests and 30+ migrations.
- Delivered features end to end using Python, Flask, FastAPI, SQLAlchemy, PostgreSQL, and Alembic migrations, and automated deployments with GitHub Actions self-hosted runners monitored through Sentry.
- Designed and integrated RESTful APIs in FastAPI and PostgreSQL against a Next.js and TypeScript frontend, following OpenAPI-driven development so the generated client stays in sync with the backend contract.
- Diagnosed and resolved production issues through log analysis, database inspection, and API tracing, and supported CI/CD workflows, Alembic migrations, and incident response with root-cause analysis.

Projects

Detailed case studies for each project are available at udaradev.me/projects.

Agentic Healthcare Assistant | udaradev.me/projects/agentic-healthcare-assistant
Self Learned – 2026

- Built a hybrid RAG and SQL hospital chatbot that routes each patient question to website retrieval, a database lookup, or a fixed doctor referral for clinical questions, served through FastAPI and a Streamlit chat UI.
- Kept the hospital database read-only behind four safeguards, including driver-level read-only mode, query validation against a table allowlist, and per-query row limits.
- Covered the system with 129 automated tests; evaluation scored 34 of 34 correct routes and 17 of 17 database answers.

ParaWrite | udaradev.me/projects/parawrite
Self Learned – 2025

- Developed a manual text paraphrasing tool to edit documents sentence by sentence with context-aware suggestions.
- Implemented features for clean text processing, user-friendly interface, and efficient workflow.

Kubernetes Lab Cluster Setup | udaradev.me/blog/building-a-kubernetes1
University of Vavuniya – 2025

- Built and configured a 4-node physical Kubernetes cluster for hands-on orchestration and research experimentation.
- Deployed workloads, managed nodes, and monitored cluster behaviour under varying resource loads.
- Established the cluster as a research platform for performance testing and adaptive CPU auto-scaling experiments.

URL Shortener (Go) | udaradev.me/projects/url-shortener-go
Self Learned – 2025

- Developed a high-performance URL shortening service using Go, supporting URL mapping, redirection, and persistence.
- Designed for low-latency request handling and scalability.
- Implemented clean API design and efficient data handling for fast redirections.

WhatsApp AI Chatbot | udaradev.me/projects/whatsapp-ai-chatbot
Self Learned – 2026

- Integrated an LLM chat backend with the WhatsApp Cloud API through a Python webhook service, keeping the model behind a swappable REST contract rather than a hardcoded provider SDK.
- Implemented webhook signature validation, idempotent message delivery, and session handling, with a local model shim so the flow runs and is tested offline.

Research Experience

Undergraduate Research (BSc Hons IT) 2025 – 2026

- Completed a final year research project on **adaptive CPU auto scaling using hybrid neural networks and continual learning within Kubernetes orchestration**.
- Developed a hybrid LSTM and MLP CPU demand forecasting model with continual learning through Elastic Weight Consolidation and Experience Replay, trained on Google Cluster Traces.
- Deployed and managed a controlled Kubernetes test environment and benchmarked the predictive autoscaler against the standard Horizontal Pod Autoscaler using a Prometheus based evidence pipeline.
- Analysed cluster behaviour and resource utilisation patterns to improve scaling efficiency.

Activities

Christian Society, University of Vavuniya
President | Dec 2024 – 2025

Sri Lanka University Catholic Students' Movement (SLUCSM)
Committee Member (Representative of University of Vavuniya) | 2023 – 2024

IEEE Student Branch, University of Vavuniya
Member | 2023 – 2026

Leo Club of University of Vavuniya
Chief Editor | 2023 – 2024

ITCS Information Technology and Computing Society
Member | 2023 – 2026

University Colours in Basketball
Awarded for outstanding performance | 2024

References

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