

# CHANNA KARAWITA

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<https://github.com/Ch4nnXDev> / <https://www.linkedin.com/in/channa-karawita-5a2924211/>  
Portfolio: <https://ch4nnxdev.github.io/channa-portfolio/>

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## SUMMARY

Aspiring Software Engineer with hands-on experience in full-stack development, real-time systems, and AI/ML projects. Skilled in Python, TypeScript, React, FastAPI, Kafka, and LangChain. Passionate about building scalable, high-impact applications and continuously learning new technologies.

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## WORK EXPERIENCE

### Software Engineer Intern, SLTMobitel

June 2025 - Present

- Developed backend systems including a CRM (PHP, MVC, JavaScript, SQL) and a Feedback Management System (PHP, CodeIgniter) with scalable databases, CRUD operations, and role-based access control (RBAC)
  - Built a complete Angular UI with responsive components and integrated Azure Active Directory authentication, enhancing user experience and security.
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## EDUCATION

**Bsc in Computer Science**, Informatics Institute of Technology  
(awarded by University of Westminster), Colombo, Sri Lanka

Sep 2023 - 2027

**Diploma in Applied Statistics**, IASSL, Colombo, Sri Lanka

April 2025-2026

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## PROJECTS

### Neural Network from Scratch

June 2025

- Built a fully-connected neural network in Python without high-level frameworks, implementing forward/backpropagation and gradient descent.
- Supported multiple activation & loss functions and optimized training with mini-batches and learning rate tuning.
- Evaluated performance on standard datasets, achieving high accuracy with visualization of results.

### Real-Time Chat Application

July 2025

- Designed and built a scalable real-time chat app using Node.js, Express.js, and TypeScript in a microservices architecture.
- Implemented event-driven messaging with Apache Kafka and WebSockets for low-latency, bi-directional communication.
- Integrated an API Gateway for centralized routing, authentication, and rate limiting across services.
- Developed a secure authentication system with JWT + OAuth (Google, Microsoft, Facebook).

## Graph RAG Application

- Built AI document query system with Python, FastAPI, React, and LangChain GraphRAG pipeline for knowledge graph-based retrieval
  - Integrated vector database and graph storage enabling semantic search and multi-hop reasoning across document entity relationships
  - Delivered context-aware answers from large document sets using scalable GraphRAG architecture with entity extraction and community detection
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## SKILLS

Python, Java, TypeScript, JavaScript, Angular, React, Tailwind CSS, Node.js, Express.js, FastAPI, Django, REST APIs, MongoDB, MySQL, Kafka, WebSockets, Docker, Microservices, LangChain, Machine Learning, Neural Networks, Hugging Face APIs, MediaPipe, OAuth, PHP, Laravel, CodeIgniter