Dilshan Arachchige

Software Engineer Undergraduate

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Professional Summary

Software Engineering undergraduate with hands-on experience in **designing, developing, and deploying scalable software applications** through academic and project-based work. Strong foundation in the **software development life cycle (SDLC)**, backend systems, **API design**, authentication, and modern application architecture. Demonstrates **analytical thinking**, problem-solving ability, and a commitment to writing **clean, maintainable, and efficient code**. Experienced in collaborating on team projects and adapting to new technologies to build functional and user-friendly solutions.

Education

HND In Cybersecurity (OTHM Level 5)
Summerset Campus, Sri Lanka   2026 – Present

BSc (Hons) Software Engineering
The Open University of Sri Lanka   2023 – Present

Technical Skills

- **Languages:** Python, JavaScript (ES6+), TypeScript, Java, HTML5, CSS3
- **Frameworks & Libraries:** FastAPI, Node.js, Express.js, React, React Native, Next.js, LangChain
- **Databases:** MongoDB, PostgreSQL, MySQL, Firebase, Supabase
- **Cloud & DevOps:** AWS (basics), Docker
- **AI & Data:** LLM Integration, RAG Systems, Vector Databases (ChromaDB)
- **Tools:** Git, GitHub, Postman
- **Concepts:** OOP, Data Structures & Algorithms, MVC Architecture, RESTful APIs

Projects

DocMind – AI-Powered Document Q&A System (RAG) (GitHub)
- Built an AI-powered document question-answering system using **Retrieval-Augmented Generation (RAG)**
- Developed backend **APIs** using **FastAPI** for document upload, processing, and querying
- Integrated **LLaMA 3.2** (via Ollama) for local **LLM** inference
- Implemented **LangChain** for document chunking, embeddings, and prompt orchestration
- Used **ChromaDB** for vector storage and semantic search
- Optimized query pipeline for low-latency and context-aware responses
- **Tech:** Python, FastAPI, LangChain, ChromaDB, LLMs, REST APIs

CloudPDF – Cloud-Based PDF Management Tool (GitHub | Demo)
- Developed a **full-stack web application** for PDF conversion and document management
- Built a responsive **frontend using Next.js (TypeScript) and Tailwind CSS**
- Designed backend services with **FastAPI** for file processing and conversion
- Implemented PDF features: merge, split, compress, password protection
- Integrated libraries including PyPDF2 and PyMuPDF
- Deployed the application for live usage and testing
- **Tech:** Next.js, TypeScript, FastAPI, Python, Tailwind CSS

QuantifyPro – Invoice & Quotation Management System ([GitHub](#))
- Developed a **full-stack** invoice and quotation management system
- Built frontend using **Next.js (TypeScript) and Tailwind CSS**
- Implemented **backend APIs using Node.js and Express.js**
- Designed **Role-Based Access Control (RBAC)** with Admin and User roles
- Integrated Firebase for **authentication** and real-time database operations
- Implemented secure authentication and protected routes
- **Tech:** Next.js, Node.js, Express.js, Firebase, REST APIs

RemoveBG – AI Image Background Removal Application ([GitHub](#))
- Developed an AI-powered web application for automatic image background removal
- Built a responsive **UI using Next.js (TypeScript)**
- Developed a **backend using Python and the FastAPI** web framework for image processing
- Integrated rembg library for **AI-based background removal**
- Implemented secure file uploads and error handling
- Deployed the application for live testing
- **Tech:** Next.js, FastAPI, Python, REST APIs

UnseenGallery – Full-Stack Image Gallery Application ([GitHub](#))
- Developed a responsive image gallery using **Next.js (TypeScript)**
- Built **backend services with Node.js and Express.js**
- Integrated Unsplash **API** for dynamic image fetching
- Optimized image loading for performance and scalability
- Applied component-based architecture for maintainable code
- **Tech:** Next.js, Node.js, Express.js, REST APIs

Certifications

Foundation: Introduction to LangChain – Python
Issued: February 2026
Credential ID - 8j52sivty7

Python Data Structures – Sololearn
Issued: January 2026
Credential ID: 639032095713774630

JavaScript Intermediate – Sololearn
Issued: January 2024
Credential ID: CC-GE5FW3VL

Python (Basic) – HackerRank
Issued: November 2023
Credential ID: 64491c681396

API Testing with Postman – Coursera
Issued: December 2023
Credential ID: ZT6VJUMS6QLK

Soft Skills

Strong problem-solving mindset, Collaborative team player, Clear technical communication, Fast learner, Detail-oriented