

MANOJITH THIYAGESWARAKUMAR

I live in imagination, and bring it to existence.

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WORK EXPERIENCE

EFutures

Senior Software Engineer

Nov 2024 - Present

- Designed and implemented a **container space optimization service** using the **Bin Packing Algorithm** to maximize container utilization for a supply chain logistics client. Integrated a **3D visualization module** to display optimized layouts, improving load efficiency and spatial accuracy.
- Developed an **AI-powered conversational agent** for a **cloud-based order parcel delivery** client that generates **natural language insights and demographic visualizations** directly from **MongoDB** sources. Enhanced performance through **Retrieval-Augmented Generation (RAG)** and **vector caching**, reducing query latency and improving response accuracy and Open AI API cost by 40%.
- Engineered a **real-time group chat therapy prototype** for couples counseling sessions with an **LLM-driven virtual therapist** capable of mediating and analyzing participant interactions, showcasing the integration of **AI with human communication systems**.

Innodata

Software Engineer

04.09.2023 - 06.09.2024

- Led the optimization of the **Intelligent Automated Publishing Platform (IAPP)**, enhancing code structure and operational efficiency through **SonarQube**-driven code quality analysis and best practices.
- Designed and developed a **text summarization tool** that automatically generated abstracts from large **XML datasets (10K–30K German words)**, condensing content into **200–300-word summaries** using NLP-based techniques.
- Improved frontend reliability by **reducing bug density by 32%**, delivering a more **seamless and responsive user interface**.
- Enhanced backend service performance by **resolving 27% of defects** in the **XML to HTML conversion module**, ensuring data integrity and smooth publishing workflows.
- Contributed to a product **adopted by leading Silicon Valley clients**, reinforcing the platform's reputation for **scalability and automation excellence**.

Virtusa

Associate Software Engineer

20.06.2022 - 01.09.2023

- Contributed my implementation on **automated email flagging system** for a **warehouse storage client**, triggered by **customer quotation requests**. This automation reduced response times, improved communication efficiency, and enabled the sales team to engage faster with potential clients.
- Optimized and refactored the **case management** for a **healthcare client**, improving the workflow for handling cases of **over-prescribed medications**. Enhanced backend performance and data handling, contributing to **faster case resolution and improved patient care outcomes**.

TECH STACK

- **Programming & Backend:** Python, Java, FastAPI, Flask, Django, Laravel, Android
- **AI & ML Stack:** Scikit-learn, OpenAI GPT-4/5, Llama 3, Qwen 7B, LangChain, CrewAI
- **Frontend Development:** React.js, Streamlit, HTML5, CSS3, JavaScript (ES6+)
- **Cloud & DevOps:** Amazon Web Services (EC2, Amplify, CodePipeline, Elastic Beanstalk), Google Cloud Platform (Compute Engine), Docker, Kubernetes, GitHub Actions, SonarQube
- **Databases:** MySQL, PostgreSQL, MongoDB, Firebase
- **Version Control & Collaboration:** Git, GitHub, GitLab, Bitbucket

EDUCATION

MSc in Artificial Intelligence (Research Track)

Sri Lanka Institute of Information Technology

2025 - (Reading)

Actively participated on **TinyML** research with **Dr. Dinuka Sahabandu** from (**University of Washington, USA**)

- Agent-Based Systems
- Machine Learning
- Mathematics

BSc (Hons) in Computer Science (Software Engineering)

Kingston University

2018 - 2023

Achievement: Placed directly to Virtusa as an Associate Software Engineer

- Mobile Application development (1st place for best project)
- Programming III - Patterns & Algorithms
- Software Development Practice

ACADEMIC PROJECTS

ORMS: An Office Resources Management System

- Developed a **web-based resource tracking platform** to monitor office equipment taken by employees during the pandemic. The system provided **comprehensive modules** for managing resources, departments, teams, employee requests, and reports.
- Implemented a **resource recommendation algorithm** to optimize allocation efficiency and prevent misuse.
- Deployed the application on **AWS Elastic Beanstalk** with **CI/CD automation via CodePipeline and EC2**.
- **Tech Stack:** *Python, Django (MVT Architecture), PostgreSQL, HTML, CSS, JavaScript, Bootstrap, AWS, Git & GitHub.*

Power Fuel: A Web & Hybrid Mobile application for gas stations in SL

- Designed and developed a **multi-platform fuel management system** for **web and mobile users**, enabling fuel stations to **manage records, generate reports, schedule refueling requests, and verify fuel quotas via QR codes** for users and vehicles.
- Integrated **real-time synchronization** between mobile and web clients to ensure accurate queue management and quota tracking.
- **Tech Stack:** *Python (Django – MVT Architecture), Dart (Flutter), JavaScript, MongoDB, XML, AWS, Android Studio.*

CERTIFICATIONS

Oracle Cloud Infrastructure 2025 Certified Generative AI Professional 

Oracle Cloud Infrastructure 2025 Certified AI Foundations Associate 

Advanced Python 

Software Architecture: From Developer to Architect 

Cloud Computing: Core Concepts 

AWARDS

The SLASSCOM National Ingenuity Awards 2025 Best Project Under Transportation & Logistics Category

As a team we won **Gold Winner** [check here](#)

The National ICT Awards (NBQSA) 2025 Silver Award - Transport in Industrial Category

As a team we won **Silver Award** [check here](#)

ALL ISLAND GRADED EXAMINATIONS Institute of Western Music & Speech

I won the title from the elocution examination held by the SriLankan government. I ranked as 1st student to score 97 marks in Spoken English.

REFERENCES

Available upon request