

# Ishrath Ahamed

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## EXPERIENCE

### Software Engineer

Jun. 2024 – Present

*Cloud Solutions International (Pvt) Ltd*

*Sri Lanka*

- Tech stack: Python, Django, Java, Spring Boot, Kubernetes, Docker, Jenkins, Liquibase, ArgoCD, Neo4j
- Build agentic orchestration workflows integrating MCP servers, RAG with Neo4j knowledge graph
- Lead QA environment setup and manage Kubernetes deployment and infrastructure dependencies
- Build Django-based applications to manage and track release dependency data
- Automate release pipelines and data migrations using Jenkins, Liquibase, and ArgoCD pre/post-sync jobs
- Develop EHR microservices using Java and Spring Boot

### Visiting Research Fellow

Jan. 2023 – Jun. 2023

*Singapore University of Technology and Design*

*Singapore*

- Tech stack: Python, TensorFlow, Keras, openCV
- Solving real world problems in the domain of surveillance using computer vision and deep learning techniques

### Intern - Software Engineer

Jan. 2021 – Jun. 2021

*Kairos Sensing*

*Sri Lanka*

- Tech stack: Java, C++
- Sri Lanka's first IMU sensor based 3D motion capturing system

## EDUCATION

### University of Moratuwa

Sri Lanka

*B.Sc.(Hons) Biomedical Engineering*

*Jan. 2020 – Jun. 2024*

- Cumulative GPA: 4.04/4.20 | First Class (Honours)

### Royal College, Colombo - 07

Sri Lanka

*G.C.E. Advanced Level Examination (Physical Science)*

*Jun. 2016 - Aug. 2018*

- Z-Score: 2.4 (3As) | Ranked 83<sup>rd</sup> in the country

## PUBLICATIONS

### Real-Time AI-Driven People Tracking and Counting Using Overhead Cameras | [IEEE-Explore](#)

2024

*Presented in TENCON 2024 - 2024 IEEE Region 10 Conference (TENCON) - Singapore*

## SELECTED PROJECTS

### TwinDoctor

2025

*Agentic workflow platform with agent orchestration and graph-based data management*

- Designed and implemented agentic workflows with multi-agent orchestration using MCP servers
- Modeled relationships using Neo4j graph database to enable intelligent, context-aware data retrieval
- Built RAG pipelines to enhance agent reasoning with domain-specific healthcare knowledge bases
- Implemented robust authentication and access control to secure agent interactions and workflow execution
- Contributed to the open-source [Agno](#) library
- Tech Stack: Python, Neo4j, MCP, RAG, Agno

### Release Automation Platform

2024–2025

*End-to-end automation platform for microservice releases, dependency management, and data migrations*

- Designed and implemented a centralized database schema to manage release dependencies across microservices
- Built a Django-based web interface enabling teams to visualize, manage, and update release dependency data
- Developed Jenkins pipelines to automate integration and deployment of release dependency metadata
- Automated database and configuration migrations including Liquibase schema changes, master data, configurations, and feature toggles
- Executed Python-based migration workflows via ArgoCD pre- and post-sync jobs for seamless release orchestration

- Tech Stack: Python, Django, Jenkins, Liquibase, ArgoCD, JavaScript

**Custom computational microscope design and 3D image reconstruction** | [github](#) 2024

*Finally year project in collaboration with Dr. D. Wadduwage - Harvard University - USA*

- Exploring deep learning techniques to solve ill-posed linear inverse problem of 3D image reconstruction
- Modelling of optics inspired imaging system
- Tools: Python, MATLAB, pytorch

**Illegal activity recognition** | [github](#) 2023

*Activity recognition model to identify illegal activities in housing schemes in Singapore*

- 3D CNN based video classification on edge devices
- Data pre-processing and overall algorithm development
- Tools: Python, tensorflow, Keras, openCV

**Face recognition** | [github](#) 2023

*A Face recognition system to improve security in switch rooms of housing schemes in Singapore*

- Deep learning based face embedding retrieval
- Face feature analysis to improve the accuracy of the system
- Tools: Python, tensorflow, Keras, openCV

**Computationally-efficient people counting system** | [github](#) 2023

*A light-weight, low-cost and accurate people counting system for edge devices*

- Designing of object tracking algorithm
- Model compression techniques to speed up live inference
- Tools: Python, tensorflow, Keras, openCV

**Walksense - 3D Motion capturing system** | [github](#) 2021

*Sri Lanka's first low cost 3D motion capturing system for the whole body*

- Configure YOST IMU sensors to read wireless data
- Develop main motion analysis algorithms and functional algorithms in the software
- Tools: Java, C++, jMonkeyEngine

**SINDiB - Micromouse** | [github](#) 2023

*Micromouse project developed for RoboFest 2023*

- Integration of flood-fill algorithm to the hardware (STM32 microcontroller)
- Configuration of motors and Interfacing OLED display via SPI communication
- Tools: C, C++, STM32CubeIDE

## SKILLS

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**Programming Languages:** Python, Java, MATLAB

**Frameworks & Libraries:** Django, Spring Boot, Liquibase, Agno, React, Angular

**Databases:** PostgreSQL, Oracle, MongoDB, Neo4j, Redis

**DevOps & Tools:** Kubernetes, ArgoCD, Jenkins, Docker

## REFERENCES

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**Raditha Dissanayake** – Software Engineering Consultant, Cloud Solutions International, Sri Lanka.

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