Ishrath Ahamed

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Experience

Software Engineer Jun. 2024 – Present
Cloud Solutions International (Pvt) Ltd *Sri Lanka*

- Backend development and integrations for healthcare platforms, including IVF workflows in EHR systems
- Implemented agentic orchestration workflows with MCP servers, RAG, and Neo4j knowledge graphs
- Developed backend services using Python (Django) and Java (Spring Boot)
- Led QA environment setup and managed Kubernetes deployments and containerized infrastructure
- Built internal platforms to track microservice release dependencies and automate orchestration
- Automated CI/CD pipelines and data migrations with Jenkins, Liquibase, and ArgoCD hooks
- Designed scalable, interoperable EHR microservices ensuring data integrity
- Tech Stack: Python, Django, Java, Spring Boot, Angular, Kubernetes, Docker, Jenkins, Liquibase, ArgoCD, Neo4j

Visiting Research Fellow Jan. 2023 – Jun. 2023
Singapore University of Technology and Design *Singapore*

- Developed novel computer vision algorithms for real-world surveillance problems using deep learning
- Designed and trained video-based activity recognition models
- Collaborated with researchers to translate findings into deployable prototypes
- Tech Stack: Python, TensorFlow, Keras, OpenCV

Software Engineer Intern Jan. 2021 – Jun. 2021
Kairos Sensing *Sri Lanka*

- Developed Sri Lanka's first IMU sensor-based full-body 3D motion capture system
- Implemented core motion processing algorithms in Java and C++
- Integrated sensor data pipelines with hardware and firmware teams
- Tech Stack: Java, C++

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 83rd 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

IVF Module for EHR Systems 2025–2026
Production-grade IVF platform integrated with enterprise EHR systems

- Architected IVF-specific database schemas for treatment cycles, lab workflows, and longitudinal patient records
- Implemented Spring Boot backend exposing IVF services as a standalone, EHR-agnostic module
- Developed Angular frontend to extend EHR UI with IVF workflows, dashboards, and clinical views
- Integrated the module with core EHR via Kafka event streaming and REST APIs for real-time interoperability
- Ensured alignment between IVF workflows and EHR entities such as patient profiles, encounters, and records
- Tech Stack: Java, Spring Boot, Angular, TypeScript, HTML, Kafka, REST APIs

TwinDoctor 2025
Agentic workflow platform with multi-agent orchestration and graph-based intelligence

- Implemented agentic workflows with coordinated multi-agent orchestration using MCP servers
- Modeled complex entity relationships in Neo4j for context-aware data retrieval
- Built RAG pipelines to enhance agent reasoning with healthcare knowledge bases
- Implemented authentication and access control for secure agent interactions
- Contributed bug fixes to the open-source Agno agent framework
- Tech Stack: Python, Neo4j, MCP, RAG, Agno

Release Automation Platform 2024–2025

Enterprise platform for microservice releases and dependency orchestration

- Designed centralized data model to manage dependencies across microservices
- Built Django web app to manage release metadata
- Developed Jenkins pipelines to automate ingestion and validation of dependency data
- Reduced release time from 1 hour to under 10 minutes by automating database migrations and workflows
- Executed Python-based ArgoCD workflows for zero-downtime releases
- Tech Stack: Python, Django, Jenkins, Liquibase, ArgoCD, JavaScript

Computational Microscope Design and 3D Image Reconstruction | github 2024

Undergraduate thesis in collaboration with Harvard University

- Investigated deep learning approaches for solving ill-posed inverse problems in 3D image reconstruction
- Designed and modeled optics-inspired computational imaging systems
- Tech Stack: Python, MATLAB, PyTorch

Edge-based Activity Recognition Systems 2023

Real-time computer vision solutions deployed on constrained devices

- Developed 3D CNN-based video classification models to detect illegal activities in residential environments
- Implemented face recognition pipelines using deep feature embeddings for secure access control systems
- Designed lightweight people-counting and object-tracking algorithms optimized for edge deployment
- Tech Stack: Python, TensorFlow, Keras, OpenCV

Walksense – 3D Motion Capture System | github 2021

Sri Lanka's first low-cost full-body 3D motion capture system

- Integrated wireless IMU sensors and developed motion analysis algorithms for full-body tracking
- Implemented real-time visualization and motion processing pipelines
- Tech Stack: Java, C++, jMonkeyEngine

Skills

Programming Languages: Python, Java, SQL, TypeScript, MATLAB,
Frameworks & Libraries: Django, Spring Boot, Angular, React, Liquibase, Agno
Databases: PostgreSQL, Oracle, MongoDB, Neo4j, Redis
DevOps & Tools: Kubernetes, ArgoCD, Jenkins, Docker, Git, GitHub, GitLab
ML / AI / CV: PyTorch, TensorFlow, Keras, OpenCV

References

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Dr. Chamira Edussooriya – Senior Lecturer, University of Moratuwa, Sri Lanka.
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