Shashika Ariyarathna

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Professional Summary

I am a motivated, dedicated and confident individual with a strong interest in teaching and passionate about advancing knowledge in the fields of computational biology, bioinformatics, health informatics, biostatistics, deep learning genomics and quantum theory through innovative research and contributing to the scientific community through effective scientific writing with the keen interest in the application of cutting-edge technologies to address complex biological and medical questions.

Research Interests

- Health informatics and public health

- Computational biology and genomics

- Biostatistics and data-driven medical decision support

- Machine learning, deep learning and explainable AI

- Quantum-classical hybrid methods for bioinformatics

Education

- **M.Sc in Computer Science (Reading)**　　　　　　　　　　　Nov 2023 – Oct 2025
  University of Sri Jayewardenepura, Colombo, Sri Lanka

- **B.Sc in Computer Science, Mathematics, Physics**　　　　　　Jan 2020 – May 2023
  University of Sri Jayewardenepura, Colombo, Sri Lanka

Professional Experience

Temporary Assistant Lecturer　　　　　　　　　　　　　　Jan 2025 – Present
University of Sri Jayewardenepura, Sri Lanka

- Conducted tutorial sessions for undergraduate courses including:
  - Data Mining and Data Warehousing
  - Machine Learning and Big Data Analytics
  - Deep Learning and Neural Networks
  - System Analysis and Design
  - Object-Oriented Programming
  - Data Structures and Algorithms
  - Fundamentals of Computer Programming
  - Web System and Technologies
  - Human Computer Interaction
  - Management Information Systems

- Assisted with midterm examinations, including invigilation and grading.

- Evaluated assignments and project submissions across multiple courses.

- Provided academic support and supervised undergraduate thesis research, offering guidance on methodology, implementation, and report writing.

- Participated in exam invigilating duties and contributed to improving course delivery through feedback.

Associate Software Quality Assurance Engineer   Jan 2024 – Dec 2024
Headstart (Pvt) Ltd, Dialog Axiata

- Developed and executed test cases from BRD and SRS.

- Improved mobile app reliability through multi-device testing.

- Ensured on-time quality releases and actively contributed to scrums, sprint planning, and client requirement discussions.

Research Experience

- **A Quantum-Classical Hybrid Architecture for Disease Classification and Risk Variant Identification in Alzheimer's Using Single Nucleotide Polymorphisms (SNPs)**
  Department of Computer Science, University of Sri Jayewardenepura, Sri Lanka

Publications

- **W. S. S. Ariyarathna**, N. H. Wanigasingha, U. Dikwatta, and M. K. A. Ariyaratne, "Artificial Intelligence in Alzheimer's Disease Detection: A Systematic Review of Advancements and Trends," *AAIML Journal (Advances in Artificial Intelligence and Machine Learning Journal)*, accepted for publication, 2025.
  A comprehensive systematic review highlighting current AI techniques used in early Alzheimer's detection, emerging trends, and key research gaps.

Projects

- **Visualize the impact of drought frequency based on groundwater levels in Colorado State of United States of America (Individual Project)**   2025
  Visualize the drought areas in Colorado and obtained what are the home care health agencies affected by drought in the area.

- **Smart WiFi Home System (Group Project)**   2023
  Implemented a smart home automation system using Arduino IDE and Google Home integration.

- **OrangeHRM Automation (Individual Project)**   2023
  Developed automation scripts using IntelliJ IDEA, Eclipse, Selenium, TestNG, and Java.
  Built automated test cases to validate HR management workflows.

- **Selenium Automation Project (Individual Project)**   2023
  Designed Selenium test scripts for an e-commerce website.
  Automated the purchase process for various items from `ebay.com`.

- **Bank Loan Management System (Individual Project)**   2020
  Created a full design document including purpose, objectives, high-level system structures, databases, flow charts, class diagrams, sequence and collaboration diagrams for both admin and server modules.

- **Stock/Inventory Control Management System (Individual Project)**   2020
  Developed using `CodeBlocks|C`.
  Implemented functionalities for stock management and report generation.

Key Skills

Machine Learning/ Data Science: Scikit-learn, KERAS, TensorFlow

Languages: Python, C, R, Java

Testing: Apache JMeter, Selenium, Cypress, Playwright, JMeter, POSTMAN

Data Engineering: Python, QGIS

Cloud Computing: AWS Load Balancing, Instances, Auto scaling

Development and Deployment: Docker, Jenkins

Research Skills: Overleaf Latex

References

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Department of Computer Science
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