

SHAVEEN SILVA

Karunanayake Shaveen Avindra Silva

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[LinkedIn](#) | [GitHub](#) | [Medium](#)

PERSONAL STATEMENT

I'm a final-year Computer Science and Engineering undergraduate with a strong foundation in mathematics and computer science, complemented by experience in both research and engineering. My fundamentals enable me to quickly grasp new concepts and work across diverse technical domains. Currently, I am interested in conducting impactful research at the intersection of machine learning and computer systems.

EDUCATION

Bachelor of Science (Honours) in Engineering

University of Moratuwa

Mar 2023 – Present
Moratuwa, Sri Lanka

- Majoring in Computer Science and Engineering with a minor in Mathematics.
- CGPA: 3.91/4.0 (First Class)

GCE Advanced Level

St. Joseph's College

2022
Colombo, Sri Lanka

- Distinctions in Physics, Chemistry and Combined Mathematics
- Z-score: 2.6047 (Top 0.5% in the country)

EXPERIENCE

FlowsXR

Software Engineer (Backend & DevOps)

Jul 2026 – Present
Singapore (remote)

- Develop and maintain a microservices-based backend supporting wearable platforms.
- Manage Kubernetes deployments on GKE and supporting infrastructure on Google Cloud.

University of Moratuwa

Teaching Assistant

Jul 2026 – Present
Moratuwa, Sri Lanka

- CS3501: Data Science and Engineering Project

Augmented Human Lab, National University of Singapore

Visiting Scholar

Dec 2025 – Jun 2026
Singapore

- Worked on head-mounted wearable platforms.
- Built an SDK for a custom Android-based wearable platform to allow for rapid prototyping.
- Developed hybrid on-device and cloud ML pipelines to help blind and low-vision (BLV) users navigate and understand their surroundings.

Vector Agents

Software Engineering Intern

May 2025 – Nov 2025
Colombo, Sri Lanka

- Researched, designed, and implemented production agentic AI systems.
- Led a project from ideation to deployment for a leading bank in Sri Lanka for automating letter of credit document verification.

PUBLICATIONS

AiSee++: An Open-Source Rapid Prototyping Platform for Screen-free Heads-Up Computing 2026

ACM CHI Conference on Human Factors in Computing Systems (CHI EA)

Two-Stage Multimodal Framework for Emotion Mimicry Intensity Prediction 2026

10th Workshop on Affective Behavior Analysis in-the-Wild (ABAW), IEEE/CVF CVPR

SELECTED PROJECTS

Mechanistic Analysis of Factual Recall in Vision Language Models 2026

Paper under review, ACL Rolling Review

- Studied how vision language models internally organise the facts they recall about visual entities.
- Built VADIS, a benchmark to evaluate interpretability methods on factual attribute disentanglement for visual entities.
- Showed that distributed alignment search (DAS) achieves selective control at intermediate depth and that attribute subspaces transfer partially between visual and textual inputs.

LangGraph, Python, React

- Built a multi-agent personal assistant leveraging LangGraph, enabling intelligent task orchestration across multiple domains.
- Sold the product IP to a private company.

Colombo Stock Exchange Explorer [\[GitHub\]](#)

2025

Python, Neo4j, Knowledge Graphs, LLMs

- Engineered a knowledge graph from unstructured data to map entities and relationships within the Colombo Stock Exchange.
- Implemented a Graph-RAG pipeline allowing complex natural-language queries over the graph.

RPAL Interpreter [\[GitHub\]](#)

2025

Java

- Built an interpreter for the RPAL programming language, including a lexical analyser, tree-based parser, and CSE engine.
- Strengthened understanding of compiler design and programming language construction principles.

FPGA Based Nanoprocessor [\[GitHub\]](#)

2023

VHDL, Basys3 FPGA

- Designed and implemented a VHDL-based nanoprocessor with core processor components and a custom ISA.
- Deployed the design on a Basys3 FPGA for hardware-level validation.

HACKATHONS

- **IEEEExtreme 18.0 (Oct 2024):** Ranked 83rd globally among 6,500+ teams and 4th in Sri Lanka. [\[Link\]](#)
- **AI-Powered Multi-Agentic System Challenge (Mar 2025):** Champions of a national AI competition for developing a multi-agent personal assistant. [\[Link\]](#)
- **Bashaway (Oct 2024):** Runners-up in a Bash scripting and DevOps competition focused on automation challenges. [\[Link\]](#)

SKILLS

- **Programming Languages:** Python, JavaScript, Java, C++
- **Machine Learning:** PyTorch, Hugging Face, Pandas, NumPy, scikit-learn, Matplotlib, TensorFlow
- **Database Systems:** MySQL, PostgreSQL, MongoDB
- **Agentic Libraries:** CrewAI, LangGraph
- **Cloud Technologies:** AWS, GCP
- **Platforms:** Linux, Windows
- **Soft Skills:** Leadership, Writing, Public Speaking, Event Management

LEADERSHIP EXPERIENCE

- **Secretary, Gavel Club** | University of Moratuwa
- **Student Representative** | Dept. of Computer Science and Engineering, University of Moratuwa
- **Vice Captain, College Rowing Team** | St. Joseph’s College
- **Deputy Head Prefect** | St. Joseph’s College

ADDITIONAL QUALIFICATIONS

Chartered Financial Analyst Level I

Aug 2025

CFA Institute

- Cleared CFA Level I with 1815 points.

CIMA

Feb 2022 – Feb 2024

Chartered Institute of Management Accountants (CIMA)

- Exams-passed finalist.

ADDITIONAL INFORMATION

Languages: English (Professional working proficiency), Sinhala (Native proficiency)

Interests: Travel, Running, Health and Well-being, Sci-Fi, Formula 1, Fusion