






EDUCATION

- PhD. in Informatics** Edinburgh, UK
University of Edinburgh (UoE) 2022–Now
- Research : Cloud computing and computer systems, with a particular focus on hybrid systems that integrate serverless computing with traditional cloud computing systems.
 - Advisor: Prof. Boris Grot
- BSc. (Hons) in Computer Science** Colombo, Sri Lanka
University of Colombo School of Computing (UCSC) 2017–2021
- First Class | Batch Rank 02 | GPA: 3.93/4.00 | Top 1.25%
 - **Best Final Year Research Project in Computer Science**
- Professional Graduate Diploma (L6)** UK Regional Office, Sri Lanka
British Computer Society 2016–2017
- MBCS | Member of British Computer Society
- General Certificate of Education - Advanced Level** Kandy, Sri Lanka
G.C.E. (A/L), Kingswood College 2007–2015
- **National Rank - 02** | District Rank - 01

EXPERIENCE

- Associate Software Engineer** Singapore (Remote)
Multiplier Technologies  Jan 2022 –Jul 2022
- Developed and optimized production-ready frontend features using React and GraphQL, integrating with Spring Boot APIs.
 - Tech Stack: React, GraphQL, Spring Boot, Cypress
- Co Founder / Lead Developer** Colombo, Sri Lanka
RevokeX Technology (Pvt) Ltd  Dec 2019
- Led frontend development for market-ready software solutions, delivering impactful platforms for clients. (Both government & private institutions)
 - Clients: Ministry of Higher Education, Sri Lanka College of Cardiology, University of Peradeniya
- Research Assistant Intern** Singapore
Nanyang Technological University (NTU), Singapore  Aug 2019 –Feb 2020
- Engineered and integrated a memory access profiling tool for C programs to assist in hardware-software co-design deployments.
- Open-source Developer - Google Summer of Code** Colombo, Sri Lanka
Google Inc. & ScoreLab.org  May 2019 –Aug 2019
- Developed DroneSym, a real-time web platform utilizing Python for backend operations to handle and track drone fleets.
- Software Engineering Intern** Colombo, Sri Lanka
Epic Technology Group - Research & Innovations  Aug 2016 –Jan 2017
- Built an internal meal ordering web platform for staff utilizing C# and ASP.NET.

SOFTWARE PROJECTS

DroneSym: Drone Fleet Simulation System

Google Summer of Code (GSoC) - Top Contributor

- Developed a real-time web platform for managing drone fleets, utilizing Python for backend.
- Tech: Angular, Node.js, Python (Flask, DroneKit), Firebase, MongoDB

STeLLAR: FaaS Latency Analysis Dashboard

The vHive Ecosystem

- Developed a dashboard for analysing performance across of FaaS deployments.
- Tech: React, DynamoDB, AWS Lambda

StoreMyBaggage: Luggage Storage Platform

RevokeX Technology

- Developed Sri Lanka's first luggage storage network that connects users with storage spots.
- Tech: React, Node.js, Stripe

DineOright: Dietary Dining Platform

RevokeX Technology

- Developed a platform helping users with dietary needs find suitable restaurants.
- Tech: React, Node.js

Postgrad Application Management System

University of Peradeniya, Sri Lanka

- Developed a frontend platform to manage applications, shortlisting, and interview workflows.
- Tech: React, Node.js, PostgreSQL

MSc Course Enrolment Platform

School of Informatics - University of Edinburgh

- Developed a web-based platform enabling MSc students to select and enroll in course modules.
- Tech: React, Node.js

MedFo: Medication Information Mobile App

Faculty of Medicine, University of Colombo

- Collaborated with the Faculty of Medicine to build a mobile app providing categorized medication data.
- Tech: React Native, SQLite, Google Auth

Online Vehicle Permit Management System

Ministry of Education, Sri Lanka

- Digitized the vehicle permit application workflow with multi-role access.
- Tech: React, Node.js

TECHNICAL SKILLS

Frontend, Backend & APIs

React, React Native, Angular, Node.js, GraphQL, REST, gRPC

Mobile App Development

React Native, Flutter

Databases

MongoDB, PostgreSQL, MySQL, DynamoDB, Firebase

Cloud Platforms

- **AWS** (EC2, Lambda, S3, ELB, DynamoDB)
- **GCP** (GCE, GCS, Cloud Functions)

Infrastructure, Systems & Tools

Kubernetes, Docker, Linux, Git, Prometheus, Grafana, GitHub Actions, ClickUp (Project Management)

Languages

Go, Python, JavaScript, TypeScript, SQL, Bash

RESEARCH PROJECTS

Spandana: Reconciling Strict SLOs with Low Cost under Fine-Grained Load Fluctuations

University of Edinburgh, UK

- Developed a hybrid system that dynamically routes workloads between serverless functions and traditional VM instances to maintain performance while minimizing costs during ms-level load fluctuations.
- Tech: Go, AWS Lambda, Kubernetes (EKS), Docker, Linux, Python

Flare: Cost-Efficient Load Spike Resilience via Hybrid Auto-scaling in Microservices

University of Edinburgh, UK




- Designed a hybrid auto-scaling system to provide cost-efficient load spike resilience for microservices.
- Tech: Kubernetes, Istio, Prometheus, Grafana, Docker, Python

Intelligent Tool for Design Exploration & Customisation of Platforms

Nanyang Technological University, Singapore

- Designed and developed a comprehensive analysis tool to profile memory access dependencies among functions.
- Tech: GDB, Valgrind, Python, Bash

PUBLICATIONS

- [1] **Spandana: Reconciling Strict SLOs with Low Cost under Fine-Grained Load Fluctuations**
D. Dehigama, S. Jesalpura, Z. Xu, M. Nemeth, M. Kogias, and B. Grot,
ACM Symposium on Cloud Computing (SoCC) 2026 - (Under-review)
- [2] **Harmonizing Diverse Compute Resources for Efficiency** 
D. Dehigama, S. Jesalpura, M. Kogias, and B. Grot,
in The 2nd Workshop on Hot Topics in System Infrastructure (HotInfra) at SOSP, 2024
- [3] **Composing Microservices and Serverless for Load Resilience** 
D. Dehigama, S. Jesalpura, A. Katsarakis, M. Kogias, R. Kumar, and B. Grot,
in The 2nd Workshop on SErverless Systems, Applications and METHodologies (SESAME) at EuroSys, 2024
- [4] **Incorporating Compiler Optimization in Software Estimation for FPGA-based Embedded Processors** 
D. Wijesundera, T. Perera, D. Dehigama, and T. Srikanthan,
in 2021 4th International Conference on Information and Computer Technologies (ICICT), 2021, pp. 137–141

TEACHING & MENTORSHIPS

- **Teaching Assistant** Oct 2023 - Oct 2025
Introduction to Computer Systems - Inf2CFall 2023 –Fall 2024
 - Conducting Tutorials, Coursework Preparation & Marking
- **Research Intern Supervision** Jan 2022 - Present
Supervised 4 intern students at school of Informatics - University of Edinburgh
- **Part time Lecturer** at LiveCollege Sri Lanka Oct 2021 - Apr 2022
BCS Level 05 Diploma in IT - Web Application Development
- **Mentorships**
 - **Google Summer of Code 2020 - Project S-ChainX** 
 - **Google Cloud DevFest**
 - **Google Code-In 2017 - 2019**

LEADERSHIP & VOLUNTEERING

- **Artifact Evaluator** : ISCA '25 & HPCA '24
 - Evaluated academic artifacts, ensuring the reliability and reproducibility of complex computing systems
- **Vice President People Management** : AIESEC in Sri Lanka - Colombo
 - Conducted member interviews and training sessions for a membership of over 250 individuals
- **Vice President** : IEEE Student Branch of UCSC
 - Lead organizer for annual IEEE Day, IEEE PreXtreme, and IEEEExtreme programming competitions
- **Organizing Committee Member** : IEEE Sri Lanka Section Events

SCHOLARSHIPS AND AWARDS

- **Informatics Graduate School Scholarship - PhD** 2022
A full PhD scholarship covering all tuition fees and an annual stipend to cover cost of living
- **ICTA Gold Medal - Best Final Year Computer Science Research Project** 2021
Awarded for the best undergraduate final year research project & thesis from University of Colombo School of Computing
- **Best Government and Citizen Engaging Product (Merit)** 2021
At “e - Swabhimani” : Digital Social Impact & Entrepreneurship Awards by Information Communication Technology Agency of Sri Lanka (ICTA) for the product: Asset-X by RevokeX Technology (Pvt) Ltd
- **Ranked 135/4019 Globally - IEEEExtreme 12.0 Programming Competition** 2018
Secured global 24-hour competitive programming competition organized by IEEE
- **Winner - RealHack Programming Competition** 2018
A hackathon organized by University of Kelaniya, Sri Lanka with 160+ teams
- **Gold Award - CodeFest Software Competition** 2018
Organized by Sri Lanka Institute of Information Technology (SLIIT), Sri Lanka
- **Mahapola Higher Education Scholarship** 2017 –2021
A scholarship cover for all 4-years of undergraduate study. Awarded for being in top 10% of Physical science stream
- **Presidential Award & Felicitation** 2016
Awarded for obtaining National Rank 2 at G.C.E (A/L) Examination - 2015 by President of Sri Lanka
- **SLT “Sisu Abhiman” Scholarship** 2016 –2021
Awarded for excellent academic performance at G.C.E (A/L) Examination - 2015 by Sri Lanka Telecom
- **People’s Bank Scholarship** 2016
Awarded for excellent academic performance at G.C.E (A/L) Examination - 2015 by People’s Bank Sri Lanka
- **Full Scholarship for BCS - HEQ** 2016
Full tuition fee waiver to pursue British Computer Society - Higher Education Qualification by ESOFTE Campus
- **Leadership Award of Excellence - Kingswood College, Kandy** 2016
In recognition of the most outstanding students (top 4 out of 3000+ students) in the College
- **Arthur McGill Trophy & Scholarship - Highest Overall Academic Performance** 2016
Awarded for obtaining the best overall academic result for the year of 2015 in Kingswood College, Kandy
- **Governor’s Medal & Felicitation for G.C.E (O/L)** 2012
Awarded for obtaining excellent results in G.C.E (O/L) Examination 2012 - Central Province