

JALIYA KUMARASIRI

Final Year Computer Engineering Undergraduate

📞 +94 76 69 34 563 ✉️ jaliya.r.kumarasiri@gmail.com 🌐 [Jaliya Kumarasiri](#) 📺 [jali-k](#)

Profile

Focused Computer Engineering student with a strong background in **full-stack development**, **team leadership**, and **team collaboration**. Demonstrated ability in building scalable software solutions from concept to deployment, with hands-on experience in microservices architecture and cloud technologies. Passionate about solving complex problems through innovative approaches and committed to continuous learning, professional and personal growth. Seeking a **full-time software engineering role** to drive technological excellence and deliver cutting-edge solutions while expanding knowledge in emerging technologies.

Education

University of Peradeniya

BSc. Computer Engineering

Sep. 2021 – Present

Current GPA: 3.6

Maliyadeva Models School

G.C.E. Advanced Level - Mathematics Stream

2017 – 2019

Results: AAB

Experience

Clouda.lk (PVT) LTD

Software Engineer Intern

Jul 2024 – Dec 2024

Udammita, Veyangoda (Remote)

- Contributed to **Smart DB application** development, a multi-tenant headless e-commerce platform with robust data isolation, implementing billing microservice with **Stripe integration** for subscription management.
- Developed and maintained **microservices architecture** using Docker, Kubernetes orchestration and **AWS services** (Lambda, S3, DocumentDB, Cognito, API Gateway, EKS).
- Technologies:** [Node.js](#), [React](#), [Next.js](#), [TypeScript](#), [AWS](#), [Docker](#), [Kubernetes](#), [Stripe API](#), [Golang](#)

Freelance Software Developer

Full-Stack Developer

Jan 2023 – Present

Remote & Local Clients

- Developed **educational content platform** with HLS streaming, **PDF security toolkit** using steganography/computer vision, and led mobile app development for various clients.
- Delivered scalable solutions via Fiverr and local partnerships, ensuring security and performance.
- Technologies:** [React](#), [Flutter](#), [Django](#), [Node.js](#), [Express.js](#), [AWS](#)

Department of Computer Engineering (UOP)

Undergraduate Teaching Assistance

Feb 2023 – Present

Faculty of Engineering

- Assisted in teaching **Data Structures and Algorithms** course for undergraduate students.

Selected Projects

Develop LLM Based System for Verilog Code Variation Generation [Group] | [GitHub](#)

Dec 2024 – Present

- Final Year Research Project** - Collaboration with **Synopsys Sri Lanka**, supervised by Prof. Roshan Ragel, Dr. Isuru Nawinne, and Dr. Damayanthi Herath.
- My Contribution:** Developed a **code generation framework** using PyVerilog for automated Verilog code analysis and modification, and currently conducting **LLM inferencing** to evaluate model capabilities and limitations within the hardware design domain.
- Technologies:** [Verilog](#), [Python](#), [PyVerilog](#), [LLMs](#), [Linux \(Ubuntu\)](#)

Shopwise: Smart Supermarket Navigation System [Group] | [GitHub](#)

Mar 2024 – Jun 2024

- Indoor navigation system with real-time indoor positioning and automated checkout capabilities.
- My Contribution:** Implemented **Flutter mobile application** with real-time navigation features, dynamic shopping list updates, and location-based promotional item display system.
- Technologies:** [Flutter](#), [AWS IoT Core](#), [Firebase](#), [Arduino](#), [ESP32](#)

ACES Inventory & Fund Management System [Group] | [GitHub](#)


Jan 2024 – May 2024

- Digital solution for Department of Computer Engineering's manual paperwork system, handling project fund requests, approval processes, and component inventory management.
- My Contribution:** Developed comprehensive **form-filling system** with dynamic validation and multi-step workflows, implemented **admin interfaces** using Chakra UI, and integrated automated email notifications, reducing processing time drastically.
- Technologies:** [ReactJS](#), [Chakra UI](#), [Express.js](#), [Node.js](#), [MongoDB](#), [Nodemailer](#)

Undergraduate Student Marks Management System [Group] | [GitHub](#) May 2023 - June 2023

- Comprehensive mobile application for managing undergraduate student academic records, GPA calculations, and grade analysis with multi-role access for students, administrators, and coordinators.
- **My Contribution:** Implemented **Administrator functionalities** for course registration and grade upload request management, and developed **Coordinator interfaces** enabling grade submission.
- **Technologies:** [Java](#), [Android Studio](#), [Firebase](#)

Educational Content Delivery Platform [Group] | [GitHub](#) June 2024 - Present

- Educational content delivery platform utilizing HLS streaming technology for optimized video content distribution with multi-quality playback support.
- **My Contribution:** Implemented majority of the **UI components** and custom notification system, developed **MP4 to HLS conversion pipeline** with three quality tiers on EC2, created admin dashboard for EC2 instance management, and coordinated team development of **Flutter mobile application** with Spring backend.  [Play Store](#)
- **Technologies:** [React](#), [Firebase](#), [Google Cloud Functions](#), [AWS Lambda](#), [S3](#), [EC2](#), [API Gateway](#), [Flutter](#), [Spring](#)

PDF Security & Steganography Toolkit [Individual] | [GitHub](#) Mar 2025 – Present

- Document security toolkit utilizing invisible watermarking techniques and computer vision for tamper detection and verification of PDF documents.
- **Key Features:** Developed **steganography algorithms** using subtle color patterns and custom fonts for data hiding, implemented **OpenCV and Pytesseract pipeline** for automated watermark extraction with **95%+ accuracy**, and built **Django web interface** with real-time validation and concurrent file processing.
- **Technologies:** [Python](#), [Django](#), [PyPDF2](#), [PyMuPDF](#), [OpenCV](#), [Pytesseract](#), [ReportLab](#), [Computer Vision](#), [Steganography](#), [Cryptography](#)

Concentration Difficulties Prediction Model [Group] | [GitHub](#) Sep 2024 – Dec 2024

- Machine learning model predicting individual focus duration and task concentration ability based on social media usage patterns and behavioral data analysis.
- **My Contribution:** Developed comprehensive **data preprocessing pipeline** using Pandas and NumPy for social media metrics and behavioral feature engineering, and implemented **Logistic Regression model** using Scikit-Learn and TensorFlow achieving reliable prediction accuracy for attention span assessment.
- **Technologies:** [Python](#), [NumPy](#), [Pandas](#), [Scikit-Learn](#), [TensorFlow](#), [Jupyter Notebook](#)

Technical Skills

Languages: Python, JavaScript, TypeScript, Golang, Java, HTML/CSS, SQL

Frameworks & Libraries: Django, React, Next.js, Express.js, Flutter, TensorFlow, Scikit-Learn, NumPy

Cloud & DevOps: AWS (IoT Core, CloudFront, DocumentDB, EKS, Amplify), Docker, Kubernetes

Databases: MongoDB, Firebase, AWS DocumentDB, MySQL

Certifications

- | | |
|--|--|
| • Next.js 15 & React Guide (certificate)
Udemy (2024) | • DevOps Bootcamp (certificate)
Udemy (2024) |
| • Flutter & Dart Complete Guide (certificate)
Udemy (2024) | • Python Django Guide (certificate)
Udemy (2024) |
| • Flutter Development Bootcamp (certificate)
Udemy (2024) | • Machine Learning Specialization (certificate)
Stanford University (2023) |

Extracurricular

Karate - National Competition

All Island Second Place - Kata Division

2015

Sri Lanka Karate Federation

* Achieved **second place nationally** in Kata division, demonstrating discipline, and performance under pressure.

References

Prof. Roshan Ragel

Professor, Computer Engineering

University of Peradeniya

roshanr@eng.pdn.ac.lk

+94 81 239 3913

Dr. Asitha Bandaranayake

Head of Department, Computer Engineering

University of Peradeniya

asithab@eng.pdn.ac.lk

+94 71 511 7771