

# JANITH RANASINGHE

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## SUMMARY

Software Engineer with a B.Sc. in Physics and Electronics (GPA 3.23) from University of Kelaniya. Proficient in MERN stack, React.js, Next.js, Node.js, TypeScript, Docker, and cloud platforms (AWS/Azure/GCP certified). Hands-on experience in frontend/feature development, test automation, and backend architecture at Sistena, plus academic research in IoT/ML (ResearchGate publication). Passionate about building scalable applications and automation.

## WORK EXPERIENCE

- |   |                               |
|---|-------------------------------|
| <b>Software Engineer at Sistena</b>   | <b>February 2025- Present</b> |
| <ul style="list-style-type: none"><li>Led frontend development of new features using React.js, Next.js, TypeScript, and Tailwind CSS, delivering responsive, user-friendly interfaces for mobile and desktop dashboards that enhanced user engagement and accessibility.</li><li>Designed and implemented automated testing suites with Jest for unit/integration tests and Postman for API validation, integrated with Azure Pipelines for CI/CD, significantly reducing regression bugs and accelerating release cycles.</li><li>Contributed to backend architecture and API development using Node.js and Express, incorporating Docker containerization and Azure deployments to improve system scalability and maintainability.</li><li>Implemented security enhancements for client applications, including HTTP security headers (e.g., CSP, HSTS) and rate limiting, protecting against common vulnerabilities and unauthorized access.</li></ul> |                               |

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|---|----------------------------------|
| <b>Software Engineer Intern at CodeSight</b>  | <b>July 2024 - February 2025</b> |
| <ul style="list-style-type: none"><li>Developed and customized WordPress websites for clients, incorporating custom themes, plugins, and performance optimizations to deliver responsive and functional sites on time.</li><li>Designed backend database architectures, including schema modeling and ER diagrams in Figma, to support scalable and efficient data management for client applications</li></ul> |                                  |

## EDUCATION

- |   |                                   |
|---|-----------------------------------|
| <b>Bachelor of Science in Physics and Electronics</b>   | <b>July 2021 - July 2024</b>      |
| University of Kelaniya, Kelaniya, Sri Lanka   |                                   |
| <ul style="list-style-type: none"><li>GPA - 3.23</li><li>Recognition at the Road Safety Invention and Innovation Competition 2024 for the Intelligent Pedestrian Signal Light System project.</li></ul> |                                   |
| <b>Diploma in Digital Marketing (DDM)</b>   | <b>June 2021 - June 2022</b>      |
| Sri Lanka Institute of Marketing (SLIM)   |                                   |
| <b>Secondary Education</b>  | <b>January 2006 - August 2019</b> |
| Dharmaraja College, Kandy   |                                   |

# PROJECTS

## Intelligent Pedestrian Signal Light System | Final year research project

### ResearchGate Publication - Python

- Developed an intelligent traffic management system integrating adaptive signal timers, real-time pedestrian detection (CNN-based), weather monitoring, and IoT components. Implemented on Raspberry Pi 4 Model B for enhanced processing.
- Achieved 80% pedestrian detection accuracy using a CNN model trained on a custom-labelled dataset.
- Reduced average pedestrian crossing time to 18.5 seconds through adaptive signal timing in a real-world case study.
- Upgraded from Arduino to Raspberry Pi 4 Model B, enabling faster real-time processing and multi-input stream handling.
- Developed an IoT-enabled framework for seamless communication between sensors, cameras, and signal controllers.

### CSE-Dashboard

#### Git Repository

- Interactive Streamlit dashboard for Colombo Stock Exchange (CSE) data: real-time market overview, company search with details, and historical price charts/analysis using Python

### Scrabble Timer

#### Github Repository - Flutter

- Developed a Scrabble clock application for competitive players worldwide.
- Implemented chess-clock-style timing with intuitive start, pause, and reset functionality.
- Integrated penalty scoring system with automatic disqualifications for exceeding penalty limit.
- Enhanced user experience for fair and efficient gameplay.

### Zero-Budget Home Server (Self-Hosted Infrastructure)

#### Article Link

- Self hosted home server with n8n automation and Linux system administration
- Setup with media server, Pi-hole adblocker with ssh capabilities.

### Browser Extension - Email allocator

#### Github Link

- Developed a Browser extension that visually categorizes Gmail emails using custom labels and colors. Built with JavaScript, with persistent storage and dynamic email detection.

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## ADDITIONAL INFORMATION

### Technical Skills:

- **Frontend:** React.js, Next.js, TypeScript, Tailwind CSS, Flutter
- **Backend:** Node.js, Express, MongoDB
- **DevOps/Cloud:** Docker, AWS (Certified Cloud Practitioner), Azure, GCP, n8n Automation
- **Testing/Tools:** Jest, Git, Postman
- **Other:** Python (ML/IoT), TensorFlow

**Languages:** English, Sinhala

### Certifications:

- Oracle Cloud Infrastructure 2025 AI Foundations Associate (1Z0-1122-25)
- Docker Foundations Professional Certificate
- AWS Cloud Quest: Cloud Practitioner
- GitHub Foundations
- Postman API Fundamentals Student Expert
- Developing Back-End Apps with Node.js and Express
- Classify Images with TensorFlow on Google Cloud
- Introduction to Large Language Models