Janith Shimalka Jayasinghe

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Summary

Senior Software Engineer at Ceytech System Solutions with First Class Honours in Bachelor of Information Technology (UCSC). Specialized in backend and full stack development with strong experience in NestJS, Laravel, microservices architecture, RabbitMQ, Redis, and PM2 in production environments. Contributor to open source software, including PM2, and experienced in building scalable, realtime systems used by thousands of users. Passionate about robust software engineering, distributed systems, DevOps practices, and developer tooling.

Experience

Senior Software Engineer and DevOps Engineer Ceytech System Solutions (Pvt) Ltd
2025 – Present

- Designed and developed scalable backend services using NestJS, Laravel, and microservices architecture
- Implemented asynchronous communication using RabbitMQ and performance optimization with Redis caching
- Contributed to multiple government scale systems used across North Western Province authorities
- Managed production infrastructure and deployments using Terraform (IaC), Kubernetes, Docker, and Ansible, with PM2 for application process management
- Contributed to architecting large-scale, secure systems while collaborating on code reviews, feature design, and maintaining high code quality standards

AI Platform Engineer / DevOps Engineer (Part time) OASES Global LLC, USA
2026 – Present

- Designed and developed an AI powered student advisory platform from scratch for a USA based study abroad company, using RAG to recommend suitable degree programs based on students' educational backgrounds and profiles
- Built a large scale intelligent retrieval and ranking system indexing approximately 45,000 degree programs across 1,000 - 2,000 universities using semantic search, Qdrant, OpenAI embeddings, and Claude AI
- Implemented context aware reasoning and multi source information retrieval to generate fast, personalized recommendations for student advisory workflows
- Developed AI powered document processing pipelines using OCR and classification to extract and categorize information from student documents such as NICs, birth certificates, and other educational and identity documents
- Integrated LLM based and local AI workflows using Open Source Models and Ollama, with n8n for workflow automation and orchestration
- Designed and managed cloud infrastructure, containerized deployments, CI/CD pipelines, and automated infrastructure using Docker, Terraform, and related DevOps practices
- Led and coordinated DevOps engineers, including interns and other team members, while overseeing deployment, infrastructure, and system operations

Education

Bachelor of Information Technology (BIT) - First Class Honours University of Colombo School of Computing
2022 - 2025

- Graduated with First Class Honours
- Coursework: Software Engineering, Data Structures, Algorithms, Cybersecurity, AI/ML, DBMS

Higher Diploma in Information Technology University of Colombo School of Computing
Completed during BIT program - 2024

GCE Advanced Level St. Mary's College, Kegalle
2020

GCE Ordinary Level St. Mary's College, Kegalle
2017

Technical Skills

- **Languages**: PHP, TypeScript, JavaScript, Python
- **Frameworks**: NestJS, Next.js, Laravel, Slim, Fast API
- **Databases**: MySQL, Postgresql, MongoDB, Redis
- **Messaging & Realtime**: RabbitMQ, WebSockets, MQTT
- **DevOps & Tools**: Docker, Kubernetes, Terraform, GitHub Actions, Ansible, PM2, Git, Nginx
- **Cloud**: Google Cloud Platform (GCP), AWS, DigitalOcean
- **AI/ML**: TensorFlow, LangChain, Google ADK, Hugging Face, N8N
- **Other**: REST APIs, Microservices, System Design, IoT (ESP8266/ESP32, MQTT)

Selected Projects

PM2 Ports Command - Open Source Contribution 2025
github.com/Unitech/pm2

- Contributed a new `pm2 ports` command to PM2, a widely used production process manager for Node.js
- Designed a multi level port detection strategy (config files, CLI args, environment variables)
- Handled complex edge cases including cluster mode, multiple port bindings, and partial configurations
- Added documentation and usage examples; pull request under maintainer review

CANGO Ride Hailing Platform (Sri Lanka & Other Regions) 2025

- Contributed to multiple backend microservices supporting realtime ride operations in production
- Worked on driver ringing service, realtime ride tracking service, notifications service, OTP and user verification service, centralized logging service for microservices, and operational monitoring services
- Assisted with deployment and operational stability across regional environments

Information Management System – Road Passenger Transport Authority, NWP 2025

- Served as Lead Software Engineer (Backend), leading a 4 - 7 member engineering team including interns in the development and maintenance of the system
- Contributed to the development of a large scale, secure information management system handling core operations of the Road Passenger Transport Authority (RPTA), North Western Province
- Developed and maintained modules supporting 1,500+ buses, including route management, timetable generation, permit issuance, payments, inspections, and regulatory operations
- Implemented realtime bus tracking and geofencing using GPS data and Tile38 for location based monitoring and operational management
- Developed workflows for issuing and managing fines, payments, permits, and regulatory compliance across the authority
- Managed complete on site server deployment, including server OS installation and configuration, application environment setup, infrastructure configuration, and production deployment
- Worked on a centralized system integrating multiple operational processes to support day to day management and administration of the transport authority

Tanderrum Events – Event Ticketing & Seat Management Platform 2026

- Contributed as backend and DevOps engineer in building a scalable event ticketing platform actively used in production
- Designed a concurrency safe seat reservation mechanism using atomic time synchronization to prevent double bookings during high demand ticket releases
- Implemented queue based webhook processing to guarantee reliable event handling without message loss
- Built automated infrastructure provisioning and CI/CD pipelines for deployment and system operations
- Deployed containerized services with autoscaling support capable of handling thousands of concurrent users
- Led and coordinated junior developers during development while maintaining system stability and release quality

Live Cricket Scoreboard System 2025

- Built a realtime scoreboard using NestJS, RabbitMQ (pub/sub), Redis, WebSockets, and Next.js
- Handled 1000+ concurrent realtime viewers and 25,000+ total users over a 3 day event
- Deployed full stack solution on DigitalOcean with high availability

Payroll & HR Management Systems – Government Projects 2025

- Developed payroll and HR systems for Human Resource Development Authority (HRDA) and Road Passenger Transport Authority (RPTA)
- Used by 1000+ employees across multiple provincial offices
- Features included payroll processing, attendance, leave management, and employee records

AI Powered NestJS Code Review Agent 2025
github.com/JanithShimalka/Code-Review-Agent

- Built an AI assisted code review agent using Google ADK and Python
- Performed AST based analysis using tree-sitter and dependency graph traversal (DFS)
- Detected circular dependencies, unused imports, and architectural issues in NestJS projects

Channeling & Medical Drug Inventory System (Final Year Project) 2024–2025

- Designed and implemented a complete hospital management system for Glow Ayucare
- Built RESTful APIs using Slim PHP with MVC architecture and MySQL
- Automated appointments, payments, and realtime drug inventory tracking

References

Amila Jayasinghe
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