

NILUSHAN SILVA

Full Stack and Cloud Engineer

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PROFILE

Highly experienced Full Stack Software Engineer & Cloud Solutions Developer with 15+ years delivering robust, high-quality software. Specialized expertise includes 7+ years in TypeScript/React development and 6+ years architecting solutions on Google Cloud Platform. Proven track record in service-oriented architecture, large-scale IoT integrations (55,000+ devices), and DevOps practices with consistent 99.999% uptime achievement. Passionate about implementing engineering best practices to create reliable, maintainable, and cost-efficient systems.

TECHNICAL SKILLS

Programming: TypeScript, JavaScript, Node.js, Java, C#, C++, PHP

Frontend: React, Redux, Bootstrap, HTML5, CSS3, Chart.js, Socket.IO

Backend: Express, Fastify, REST APIs, Event-Driven Architecture, Microservices

Databases: PostgreSQL, MySQL, Firestore, MongoDB, Redis, TimescaleDB, ClickHouse

Cloud: GCP (Kubernetes, Cloud Functions, Cloud Run, IoT Core, PubSub), Firebase, AWS (Lambda, Kinesis)

DevOps: Docker, Kubernetes, CI/CD, Google Cloud Build, GitHub Actions, Git, SVN

Tools: Jira, Confluence, ClickUp, Draw.io, Lucid Charts (UML), Axure RP 9

EXPERIENCE

Full Stack Developer & Cloud Engineer

October 2017 – Present

Zimi Ltd, Queensland, Australia

- **Platform Migration:** Successfully migrated cloud IoT platform with 55,000+ devices from Xively to GCP with zero downtime, reducing infrastructure costs by 50% and latency by 40% while maintaining 99.999% uptime
- **Architecture:** Designed end-to-end IoT platform for smart electrical devices handling 100+ events/second with secure device communication protocols
- **Cloud Infrastructure:** Built microservices architecture on GCP using Kubernetes, Cloud Functions, Redis, Pub/Sub, and Firebase for optimal scalability and resilience
- **Frontend Excellence:** Developed React/Redux admin dashboards with dynamic visualizations for real-time IoT device network monitoring and management
- **Backend Development:** Created high-performance REST APIs and event-driven services using Node.js / TypeScript with comprehensive documentation
- **Voice Integration:** Engineered and certified Google Assistant and Alexa voice control systems, expanding product ecosystem compatibility
- **Code Efficiency:** Created reusable TypeScript/Node.js libraries for API clients and IoT message parsing, reducing development time by more than 50%
- **DevOps:** Implemented automated CI/CD pipelines with Docker, Google Cloud Build, and GitHub Actions for seamless multi-environment deployments
- **Data Pipeline:** Designed efficient telemetry collection and storage systems using Firestore and PostgreSQL with optimized patterns

Product Manager

January 2015 – June 2017

Simcentric, Colombo, Sri Lanka

- **Leadership:** Directed development of 5 new simulation products used by military training organizations
- **Team Management:** Led cross-functional teams (10 engineers, 5 QA specialists) in delivering complex software projects
- **Complex Delivery:** Successfully implemented challenging screen capture and real-time streaming features, overcoming significant R&D obstacles
- **Training Solutions:** Created 'Training Mate' classroom tool (C#.Net) with screen sharing and collaboration features
- **Simulation Software:** Directed 'Ambience Suite' (C++) for military training simulations with interactive environments

Software Engineer

November 2010 – December 2014

Simcentric, Colombo, Sri Lanka

- **Simulation Development:** Built core components for military training simulation products using C++
- **Scenario Engine:** Implemented Insurgent Pattern of Life Simulation for VBS2 Game engine scenarios
- **Tool Enhancement:** Enhanced Urban Pattern of Life Editor (Java SE) with improved usability and expanded capabilities

Software Engineer

August 2008 – November 2010

Respere, Colombo, Sri Lanka

- **Open Source:** Developed web software for human rights violations recording using PHP and MySQL
- **SaaS Implementation:** Designed 'OpenEvSys' as a secure multi-tenant platform with international hosting options

PROJECTS

Enterprise IoT Cloud Platform Migration

2017-2020

Led migration of 55,000+ IoT devices to GCP microservices architecture with zero downtime. Achieved 99.999% uptime while handling 100+ events/second. Implemented secure device communication and real-time control systems, reducing operational costs by 50% while increasing system reliability.

Technologies: GCP, Kubernetes, Firebase, IoT Core, PubSub, PostgreSQL, TypeScript, MQTT, Redis

Smart Home Voice Control Ecosystem

2019-2021

Architected voice-control integrations for Google Assistant and Alexa. Developed unified business logic with platform-specific adapters ensuring consistent behavior across ecosystems. Successfully navigated certification processes for both platforms, expanding product market reach.

Technologies: TypeScript, Express, OAuth, AWS Lambda, Google Actions API, Alexa Smart Home API

IoT Network Management Dashboard

2018-2022

Developed comprehensive web-based platform for IoT device network management with real-time monitoring. Created interactive data visualizations for device telemetry, usage patterns, and system health metrics. Implemented role-based access control and team collaboration features.

Technologies: React, Redux, TypeScript, Bootstrap, Firestore, Chart.js, Socket.IO

EDUCATION

Bachelor of Science in Computer Science (Honours)

2004 – 2008

University of Colombo, Sri Lanka

LANGUAGES

English Professional working proficiency