

NIPUL MALLIKARACHCHI

Full Stack Software Engineer

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[LinkedIn](#) | [Github](#) | [Substack](#)

Summary

Full Stack Software Engineer with 2+ years of experience developing production enterprise applications, from RESTful Web API design and Java/Spring Boot backend services to ReactJS frontends and cloud infrastructure on AWS. Experienced in relational and NoSQL database design, asynchronous event-driven processing, and DevOps practices including Infrastructure as Code (IaC) with Terraform and CI/CD with GitHub Actions. Works closely with product, design, and engineering stakeholders in Scrum Agile delivery environments to turn business requirements into reliable, customer-focused products.

Skills

Languages: Java, TypeScript, JavaScript, SQL

Frontend: ReactJ, Next.js, React Native

Databases: PostgreSQL, NeonDB, DynamoDB, MongoDB, Redis

Cloud & DevOps: AWS (Lambda, API Gateway, DynamoDB, S3, Kinesis), Terraform, Docker, Serverless, CI/CD (GitHub Actions)

Observability: Datadog, Grafana

Experience

Software Engineer

November 2025 – Present

Apium Innovations

Maash – Stablecoin Neo Banking Application

- Architected and delivered the end-to-end backend system for a peer-to-peer (P2P) transaction platform in a Scrum Agile environment, owning the full lifecycle from requirement gathering and RESTful Web API design to high-level architecture and production deployment.
- Designed a multi-layered security and compliance pipeline enforcing automated KYC checks via third-party provider integrations prior to transaction execution, mitigating risk across enterprise workflows.
- Streamlined operational workflows by engineering backend services that dynamically generate and deliver transaction and account documents.
- Developed internal tooling and KPI dashboards in Grafana to provide operational visibility into core P2P system health and business transaction metrics.
- Implemented an enterprise observability framework using Datadog log management and multi-threshold monitors integrated with Slack for real-time error detection and proactive incident response.
- Managed and scaled AWS cloud infrastructure using Terraform Infrastructure as Code (IaC), enforcing DevOps practices and environment parity.

AMC PrepPro – AMC Exam Preparation Platform

- Integrated in-app subscription purchases and managed end-to-end payment flows to enable monetisation.
- Ensured feature parity and data consistency between the mobile app and the existing web application.

Associate Software Engineer

September 2024 – October 2025

Apium Innovations

PlayNet Inc – Game Engagement Tracking Platform

- Developed the frontend in ReactJS (Next.js), implementing advanced state management, side-effect handling, and third-party API integrations for a platform serving 500K+ DAU.
- Collaborated with UI/UX engineers to translate designs into production-ready React components, providing technical feasibility feedback and aligning on component specs.
- Participated in system design and contributed to a POC for social-based player analytics across Instagram, YouTube, TikTok, and Discord.
- Built an asynchronous, event-driven content pipeline using AWS Lambda, EventBridge, and the Google Sheets API to detect changes and dynamically serve blog content through Webflow CMS.

Autoscout – Automotive Deal Intelligence Platform

- Designed and built high-performance data ingestion pipelines processing 300K+ monthly marketplace listings, optimizing relational database querying and performance tuning for VIN-level insights.
- Built and maintained infrastructure and deployment templates on AWS IaaS/PaaS to provision and manage enterprise backend services.
- Built internal services using OpenAI to automate platform workflows, reducing manual effort across key operations.

- Integrated third-party communication platforms to enable end-to-end messaging and notifications for end users.

Intern Software Engineer

February 2024 – August 2024

Apium Innovations

- Assisted in developing backend services using Java and Node.js for a blockchain gaming platform, delivering personalised challenges based on player skill level and activity patterns.
- Implemented a referral system with invite-based access control and earnings tracking for user acquisition and retention.
- Assisted in provisioning and maintaining AWS cloud infrastructure using Terraform and automated deployment.

Projects

Project Aegis – APIIT Inter-University Hackathon | AWS, Node.js, React (Collaborative) | Dec 2025

- Offline-first disaster response system enabling first responders to coordinate in zero-connectivity environments with zero data loss. Solely responsible for the end-to-end backend architecture, RESTful API design, and AWS infrastructure.

Hardware-Bound ZKPs for Static Credential Elimination in DevOps | Rust, Noir, TypeScript, AWS | March 2026 – Present

- Designed and implemented *zk-sudo*, a hardware-bound Non-Interactive Zero-Knowledge (NIZK) authentication system binding a master secret to the macOS Secure Enclave, using Noir circuits on the Barretenberg (PLONK/UltraHonk) backend to eliminate disk-persistent static credentials in Terraform/IaC workflows.
- Built a Rust CLI prover and a TypeScript/Node.js Verification Gateway (AWS Lambda, DynamoDB) implementing a nonce-bound, replay-resistant proof-of-possession scheme that brokers Just-In-Time AWS STS credentials.
- Engineered volatile in-memory secret handling (RAM-disk isolation, mlock, zero-on-drop) with authenticated enrolment, single-use bootstrap tokens, and revocation controls, informed by threat-model analysis of the Codecov, CircleCI, and Uber breaches.
- Benchmarked the deployed system against AWS SSO and static-credential baselines, decomposing a ~8s marginal authentication overhead into compute- vs. network-bound components, and validated revocation and replay-resistance against the live Gateway.

oisbase – Cloud Infrastructure CLI | AWS, Terraform, Go | [GitHub](#) | February 2026 – Present

- Developed a CLI in Go to automate AWS and Terraform environment bootstrapping, including remote state backend initialization and directory isolation.
- Built a scaffolding engine that enforces Infrastructure as Code (IaC) best practices and eliminates copy-paste configuration errors.

DinoRunner – Dynamic Asset Framework | Solidity, Web3.js, React, IPFS | [GitHub](#) | July 2025

- Developed a React and Web3.js application synchronizing in-game performance (score/time) with Ethereum smart contract state, with automated updates to IPFS-hosted token assets.

Technical Publications

- **Bridging the Infrastructure Scaffolding Gap with ois** - A technical deep-dive into building a Go-driven CLI to automate AWS/Terraform scaffolding. ([Substack](#))
- **Building Dynamic NFTs: A 3-Part Technical Series** - Smart contract logic, on-chain state transitions, and full-stack dNFT deployment. ([Substack](#))

Education

BEng (Hons) Software Engineering (Computer Science Equivalent), *Staffordshire University*

- APIIT School of Computing Honour Roll – Level 5, Year 2 (78.5%)
- APIIT School of Computing Honour Roll – Level 4, Year 1 (70%)

Certifications

- AWS Cloud Quest: Cloud Practitioner (June 2026)
- CS50's Introduction to Cybersecurity & Introduction to Databases with SQL (December 2023)
- The Complete JavaScript Course From Zero to Expert (October 2023)