

CHAMOD DILSHAN

Intern Software Engineer

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Dedicated Software Engineering Intern with deep technical expertise in Java, TypeScript, and Enterprise Architecture. Skilled in developing scalable APIs and mobile applications with a focus on UI/UX Engineering. Eager to integrate Cloud-native technologies and DevOps automation into production-grade software lifecycles.

Education

Java Institute for Advanced Technology

Feb 2024 - Dec 2027

Bachelor of Science - BS Computer Engineering

Birmingham city university

Feb 2024 - Dec 2027

Bachelor of Science - BS Computer Engineering

Projects

Shutterly | Serverless Cloud-Native Media Suite

A high-performance, serverless media-sharing platform designed for premium user experiences, featuring real-time interactivity and edge-ready architecture.

- **Edge-First Performance:** Architected a scalable, serverless backend using Next.js (App Router) and TypeScript, reducing latency via global edge-ready Route Handlers.
- **Scalable Media Infrastructure:** Engineered a secure storage system via Azure Blob Storage, optimizing delivery for high-resolution assets and ephemeral content.
- **High-Fidelity UX:** Designed a "human-centric" interface using Tailwind CSS and Framer Motion, achieving fluid, app-like transitions and 100% responsiveness.
- **Data Integrity:** Implemented complex relational modeling with PostgreSQL and Prisma ORM, ensuring high-speed queries and strict data persistence.
- **Real-Time & Reliability:** Integrated Socket.io for instant user interactivity and maintained a robust codebase through rigorous unit testing with Vitest.
- **AI-Augmented Development:** Leveraged GitHub Copilot CLI (Agent Mode) to accelerate workflow, focusing on solving complex architectural edge cases and logic.

Multi-Node k8s Infra | Cloud-Native Traffic Orchestration & Deployment

Engineered a multi-node Kubernetes environment to automate the deployment, networking, and traffic routing for containerized Next.js applications.

- **Multi-Node Architecture:** Architected a local Kubernetes (Kind) cluster with a dedicated Control-Plane and Worker Node to simulate production-grade orchestration.
- **Traffic Management:** Configured Nginx Ingress Controller as the primary entry point to manage complex routing and external access to internal services.
- **Containerization Workflow:** Developed a streamlined Docker pipeline to build, optimize, and load Next.js frontend images directly into the cluster environment.
- **Cloud-Native Networking:** Implemented Kubernetes Services (ClusterIP) and Ingress rules to establish scalable and reliable communication for web workloads.
- **Infrastructure as Code:** Managed cluster resources via declarative YAML manifests, ensuring a reproducible and version-controlled deployment process.

Sound Crafters | Full-functional E-commerce Architecture

A production-ready e-commerce ecosystem featuring a robust Jakarta EE backend and a modern React frontend, built with an emphasis on enterprise-grade architecture and data integrity.

- Enterprise MVC Architecture: Architected a decoupled full-stack system using Jakarta EE and React (Vite), strictly adhering to MVC patterns for scalable code management.
- Data Persistence & ORM: Integrated Hibernate ORM with MySQL, streamlining complex object-relational mapping and ensuring high-performance query execution.
- Modern Frontend Stack: Developed an accessible, high-performance UI using Tailwind CSS and Headless UI, focusing on cross-browser compatibility and optimized rendering.
- Server-Side Logic: Engineered RESTful API endpoints to manage real-time product inventories and secure user sessions, validated through deployment on Apache Tomcat.
- Relational Modeling: Designed a comprehensive database schema to handle relational data, ensuring 100% consistency across the shopping lifecycle.

Vehicle Management System | Enterprise Desktop Application

A high-performance standalone desktop application built with Java, focusing on robust architectural patterns, object-oriented excellence, and efficient relational data management.

- Advanced UI/UX Engineering: Architected a clean, intuitive desktop interface using Modern Java Swing, prioritizing user workflow efficiency and responsive component behavior.
- Object-Oriented Excellence: Applied core OOP principles Inheritance, Polymorphism, and Abstraction to design a modular, reusable system architecture.
- Design Pattern Implementation: Leveraged industry-standard patterns (such as Singleton) to ensure a decoupled, maintainable, and highly scalable codebase.
- Database & Transaction Management: Engineered a persistent data layer using JDBC and MySQL, optimizing SQL queries for high-speed CRUD operations and data integrity.
- Secure Data Handling: Implemented robust validation logic and secure transaction management to handle complex vehicle inventories and user records.

Node.js | Production-Grade Backend & DevOps Architecture

A robust, containerized server-side architecture featuring a type-safe database layer and a fully automated CI/CD pipeline for enterprise-level reliability.

- Scalable SSR Architecture: Architected a high-performance Server-Side Rendered (SSR) system using Express.js and PostgreSQL, strictly following the MVC pattern for modularity.
- Type-Safe Data Layer: Integrated Prisma ORM to manage database schemas with full type safety, optimizing query execution and ensuring reliable persistence.
- Advanced CI/CD Pipelines: Engineered a comprehensive automation suite using GitHub Actions, featuring a Build Matrix to validate stability across multiple Node.js runtimes (v22/v24).
- Automated Quality Assurance: Developed a rigorous testing framework with Jest and Supertest, maintaining high code integrity through automated unit and integration tests.
- Cloud-Native Deployment: Orchestrated a containerized workflow using Docker and Azure Container Registry (ACR), hosting the service on Azure Web Apps.
- Managed Infrastructure: Configured and maintained a managed Azure Database for PostgreSQL, ensuring secure and scalable data hosting.

Real-time Chat Engine | Cross-Platform Communication Suite

A high-performance, real-time messaging ecosystem featuring a native desktop client and sub-millisecond data synchronization.

- Real-Time Orchestration: Engineered a high-concurrency messaging platform using WebSockets and Express.js, achieving ultra-low latency for instant data synchronization.

- **Cross-Platform Desktop Client:** Developed a native desktop application using Electron, ensuring a consistent user experience across Windows, macOS, and Linux from a single codebase.
- **Persistent Messaging Layer:** Architected an optimized MySQL schema to handle high-frequency message history, user presence states, and real-time metadata.
- **High-Fidelity UI/UX:** Designed a modern interface using React, Tailwind CSS, and Framer Motion, implementing complex layout animations.
- **Inclusive Design Standards:** Leveraged Headless UI to build fully accessible, keyboard-navigable components, ensuring compliance with modern web accessibility standards.

Chronos | Cross-Platform Mobile Application

A professional-grade task management ecosystem featuring a high-performance React Native mobile client and a robust Jakarta EE enterprise backend.

- **Cross-Platform Mobility:** Engineered a high-performance mobile application using React Native and TypeScript, ensuring a native-feel experience on both iOS and Android.
- **Enterprise Backend API:** Architected a secure RESTful API using Jakarta EE to manage complex business logic and high-frequency data exchange.
- **Frictionless Onboarding:** Implemented a flexible Authentication System supporting Email-based login and Guest access for a seamless user entry point.
- **Data Persistence & Integrity:** Integrated Hibernate ORM with MySQL to manage persistent task data, optimizing transaction safety and relational consistency.
- **Adaptive UI/UX Design:** Designed an intuitive mobile interface optimized for responsiveness and accessibility across diverse screen sizes and device densities.

ReadHaven | Full-functional E-commerce Architecture

A high-performance, mobile-first e-commerce platform for digital and physical media, featuring a secure payment ecosystem and an optimized asynchronous user experience.

- **Full-Stack PHP Architecture:** Engineered a robust, scalable e-commerce engine using PHP and JavaScript, optimized for seamless server-side processing.
- **Financial Gateway Integration:** Implemented a secure, production-ready checkout experience by integrating the PayHere Payment Gateway for real-time transaction processing.
- **Asynchronous UX (AJAX):** Optimized page performance and interactivity by leveraging AJAX for background data loading, achieving a smooth "Single Page" application feel.
- **Secure Session Management:** Architected a multi-tier Authentication System with advanced session handling to protect sensitive user data and transaction history.
- **Mobile-First Design:** Designed a responsive, accessible UI using Bootstrap and Custom CSS, ensuring 100% compatibility across diverse mobile and desktop screen sizes.
- **End-to-End Workflow:** Developed a complete commercial lifecycle including Shopping Cart Persistence, automated order processing, and secure user account management.

Lunex | Generative AI Image Synthesis Platform

A high-performance Generative AI platform integrating state-of-the-art models for low-latency image synthesis and real-time prompt engineering.

- **Generative AI Integration:** Engineered a high-performance chat interface integrating the Flux.1-schnell model, delivering low-latency, high-fidelity visual content generation.
- **Scalable Full-Stack Architecture:** Developed a responsive system using React and Express.js, leveraging advanced Asynchronous JavaScript for seamless model API communication.
- **Persistent AI Metadata:** Architected a robust data layer with MongoDB to manage complex user prompts, generation metadata, and persistent chat history.
- **Prompt Engineering UX:** Designed an intuitive interface focused on UI/UX Engineering, providing real-time generation feedback and optimized prompt-to-image workflows.
- **State Management & Logic:** Implemented efficient client-side state management to handle asynchronous image rendering and high-frequency user interactions.

Languages

English (*Professional Working Proficiency*), Sinhala (*Native*)

Core Skills

Languages: Java, Javascript, Typescript, SQL, Python, PHP

Frameworks & Libraries: React, React Native, Node, Express, Electron, Spring Boot, Next

Software Design & Principles: Object-Oriented Programming, Design Patterns

Desktop Development: Java Swing, Java FX

Database Management: PostgreSQL, Hibernate ORM, Prisma ORM, MySQL, MongoDB

Testing & QA: Jest, Supertest, Postman, API Testing

Cloud & DevOps: Docker, Kubernetes, Container Orchestration, GitHub Actions, Azure, AWS

Tools & Version Control: Git, Github, Jira, Maven, IntelliJ IDEA, VS Code, Slack

Certificates

Docker For Absolute Beginners <i>KodeKloud</i>	Feb 2027
AWS Cloud Practitioner Essentials <i>Amazon Web Services</i>	Dec 2025
Postman API Fundamentals Student Expert <i>Postman</i>	Oct 2025
LFS167: Introduction to Jenkins <i>The Linux Foundation</i>	Nov 2024
LFS101: Introduction to Linux <i>The Linux Foundation</i>	Dec 2025
Introduction to Containerization <i>CoDeKu DevOps Academy</i>	Dec 2025
100 Days of Cloud (Azure) <i>Kodekloud</i>	Feb 2026
100 Days of Cloud (AWS) <i>Kodekloud</i>	Jan 2026
Docker for Absolute Beginners with Hands on Projects <i>CoDeKu DevOps Academy</i>	Jan 2026

Interests

Hackathons, Team Sports, Exploring New Technologies, Cloud Computing, Strategic Gaming, Researching financial trends, Forex strategies, global economic