

CHETHIYA RATHNASEKARA

Software Engineer & AI Engineer

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SUMMARY

Software Engineer and AI Engineer (undergraduate at Java Institute, since 2023) who builds desktop, web and AI applications in Python (PyTorch, CUDA), Java (Swing, Servlets), React/Next.js, and Node.js. Built and released 8+ personal systems, including a real-time MetaTrader 5 analytics app (under 100 ms sync), a CUDA 4K AI video pipeline, and custom generative AI tools. Google AI, Oracle, and Aviatrix certified; seeking software engineering and AI engineering roles.

PROJECTS

Traders Journal (KING Edition v1.0.9)

2026 · **Live Showcase ↗** · GitHub · Release

Electron 41, Node.js, Python, MQL5, SQLite/JSON, NSIS

- Built a privacy-first Windows trading analytics app with a custom MQL5 Expert Advisor and a localhost HTTP/IPC bridge to Electron, syncing live MT5 deals in under 100 ms with no manual setup.
- Implemented equity curves, a daily PnL calendar and multi-account login; calculates 15+ risk metrics (win rate, profit factor, max drawdown) fully offline.
- Packaged it with NSIS and PyInstaller, bundling a portable Python runtime, cutting setup from 30+ minutes of manual configuration to under 60 seconds.

POS & Inventory Management System

2026 · GitHub · Release

Java, Swing, FlatLaf, JasperReports, MySQL 8

- Developed a desktop retail POS with role-based access (Admin/Cashier) and JasperReports receipts and reports; barcode checkout and stock deduction complete in under 3 seconds per sale.

Online Bookstore Web Application

Java EE (JSP/Servlets), JDBC, MySQL, Bootstrap, JavaScript

- Engineered a full-stack bookstore with authentication, catalog filtering and cart checkout on a normalized MySQL schema (JDBC), plus an RBAC admin dashboard for inventory, pricing and orders.

Orbit Media Studio (Galaxy PWA)

2026 · GitHub

Next.js 15, TypeScript, Node.js, Tailwind CSS, FFmpeg, Docker

- Built an installable PWA with a Node.js media engine (link detection across 11+ video platforms, batch queues) and a Dockerized FFmpeg pipeline for batch watermark removal.

ScreenToChatGPT & Daybook

2026 · Screen-Capture · Daybook

Python, PyWin32, GPT-4o API, Electron, React 18, TypeScript

- Built a global-hotkey multi-monitor capture tool that sends screenshots to ChatGPT Desktop in 240 ms, and Daybook, an Electron/React trading journal with live ForexFactory news.

4K AI Video Upscaler

Python, PyTorch (CUDA), Real-ESRGAN, FFmpeg, Next.js

- Built a CUDA-accelerated Real-ESRGAN 4K 60 FPS video super-resolution pipeline with multi-threaded FFmpeg processing, raising batch rendering throughput about 3x.

Other Projects

- **Enterprise Academy & Inventory System** (Java Swing, MigLayout, MySQL): registration, scheduling and billing with automated PDF invoices and reports.
- **Cloud-Backed Web App & Portfolio** (React, Tailwind, Supabase, Netlify): Supabase auth and real-time PostgreSQL sync, deployed via Netlify CI/CD.

SKILLS

Frontend

React 18 · Next.js 15 · TypeScript · JavaScript · HTML5 · CSS3 · Tailwind CSS · Bootstrap · PWA

Backend & Desktop

Java · Swing · JSP/Servlets · JDBC · JasperReports · Node.js · Express.js · REST APIs · Python 3 · Electron · MQL5

Databases

MySQL 8 · PostgreSQL · Supabase · SQLite · Oracle DB · Oracle APEX

DevOps & Cloud

Git · Docker · GitHub Actions · Netlify · NSIS · PyInstaller · Oracle Cloud (OCI) · Aviatrix

AI, Media & Testing

Google AI · Prompt Engineering · GPT-4o API · PyTorch · CUDA · Real-ESRGAN · FFmpeg · Postman · Unit & Integration Testing

EDUCATION

Undergraduate, Software Engineering (BEng/BSc)
Java Institute for Advanced Technology
2023 – Present · Sri Lanka

G.C.E. Advanced Level – Technology Stream
2025 (results 2026)

G.C.E. Ordinary Level
2023 (results 2024)

CERTIFICATIONS

Google AI Professional Certificate
Google • Coursera Verified • Nov 2026 • 8 Specialist Badges
AI Fundamentals, App Building, Deployment, Data Analysis, Content Creation, Research, Planning, Writing

Oracle APEX Cloud Certified Developer Professional
Oracle Certified Professional • 2025

OCI Associate Suite (3 Associate Certifications)
OCI Foundations • OCI AI Foundations • OCI Data Platform Foundations • 2025

Aviatrix Certified Engineer (ACE)
Multicloud Network Associate • Aviatrix • 2025 (ID: 2025-27952)

HACKATHONS

- 24-Hour Software Application Development Hackathon (2025)
- Robotics Hackathon
- IoT Hackathon

LANGUAGES & DETAILS

Sinhala – **Native**

English – **Professional working proficiency**

Date of birth – **22 April 2006**