

Damika Anupama Nanayakkara

Full-Stack, AI & Web3 Engineer — Building scalable, production-ready apps with modern cloud stacks

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3+ years' experience building production-ready web apps, AI tools, and Web3 integrations. I help startups and tech teams ship scalable, secure, and modern applications using React, Node, FastAPI, and AWS.

Open for freelance or contract work (remote or hybrid)

Technology Summary

- **Core Stack:** React, Angular CLI, Next.js, Node.js, FastAPI, Spring Boot, Django, TypeScript
- **AI / ML:** PyTorch, Hugging Face Transformers, Scikit-learn, RL models, NER, NLP
- **Cloud / DevOps:** AWS (Lambda, EC2, RDS, S3, Step Functions), Docker, GCP
- **Databases:** PostgreSQL, MongoDB, MySQL, Redis
- **Web3:** Solidity, Web3.js, Ethereum, Truffle
- **Tools:** Git, Jira, Confluence, Bitbucket, Postman

Work Experience

Software Engineer - Machine Learning, [SYNERGEN Health](#) - USA

July 2025 - Onwards

- Enhanced OCR pipeline and optimized FastAPI microservices, reducing average response latency by **20%**.
 - Designed scalable MySQL data models and batch transaction workflows for high-volume claim processing.
 - Integrated AWS Lambda, S3, RDS, and SQS to enable async task execution and cost-efficient scaling.
- Tech:** Python, FastAPI, MySQL, AWS (Lambda, S3, EC2, RDS, SQS), Git

Google Summer of Code 2025 Contributor, [Checker Framework](#)

June 2025 - Aug 2025

- Implemented **new annotation checker** to detect index-related compile-time errors in mutable data structures.
 - Wrote comprehensive test suites, maintained documentation, and aligned contributions with the Checker Framework's architecture.
 - Merged multiple PRs into the upstream repository and collaborated with senior maintainers via GitHub.
- Tech:** Java, Gradle, JUnit, Checker Framework, Git

Software Engineer - (Part-Time, Contract) [jahan.ai](#) - Australia

Dec 2024 - Feb 2025

- Developed backend modules and REST APIs using Django, improving response time and modularity.
 - Built dynamic dashboard features with Webix frontend framework, enhancing admin usability and data visualization.
 - Worked in isolated **Dev Containers** for reproducible environments and consistent deployments.
- Tech:** Python, Django, Webix, Git, Docker, Atlassian Tools

Software Engineering Internship [WealthOS Pvt Ltd](#) - UK

Dec 2023 - May 2024

- Refactored 8K+ backend lines and optimized AWS Lambdas via Webpack + X-Ray, improving efficiency by 30%.
 - Designed Step Functions and integrated Snyk DevSecOps for secure, automated workflows.
 - Delivered a **full-stack Leave Management System** replacing manual HR processes with real-time tracking.
- Tech:** TypeScript, React, Node.js, Next.js, Express.js, MongoDB, AWS (Lambda, Step Functions, EC2), Docker

Backend Engineer (AWS) [LivinBetr Corp.](#) / [SmartNURSE Corp.](#) - USA

Feb 2023 - May 2023

- Developed and deployed **AWS Lambda functions** for mobile app backends supporting healthcare data.
- Integrated with Amazon RDS (MySQL) and monitored API performance using AWS CloudWatch.

- Wrote clear API documentation and deployment scripts for multi-region environments.
Tech: Node.js, AWS (Lambda, RDS, CloudWatch), MySQL

Education

University of Moratuwa, Sri Lanka
BSc Eng Hons, Computer Science & Engineering | Software Engineering

Oct 2021 - Jun 2025

Projects

[Job Search Website](#) (*FastAPI, Python, MongoDB, Redis, HuggingFace, Pinecone, Docker*)

Aug 2025 - Onwards

Built an **AI-powered multi-source job aggregator** using semantic search and Named Entity Recognition (NER). Integrated vector embeddings and cross-encoder re-ranking for precision results.

[Safe RL Algorithm for T1D Patients](#) [Research] (*Python, PyTorch, CUDA, GCP*)

May 2024 - May 2025

Engineered a reinforcement learning solution that optimizes insulin dosage control through safe policy rollback mechanisms. Trained and deployed models on GPU-enabled cloud instances with automated monitoring and performance visualization.

[NFT Marketplace](#) (*React, Node.js, Solidity, Web3.js, Ethereum, Metamask, Truffle*)

May 2023 - Jun 2023

Created a **decentralized marketplace** for minting, listing, and trading NFTs via ERC-721 smart contracts. Integrated MetaMask for secure wallet transactions and built a responsive UI with filtering and search.

[Student Summary Evaluation Website](#) (*Next.js, Django, MySQL, AWS, NLP*)

Feb 2023 - Mar 2023

Developed an **automated grading system** that evaluates written summaries (Grades 3–12) for content accuracy and fluency. Used DeBERTa and LightGBM models with Django backend and role-based dashboards.

[Bank Management Web App](#) (*Angular CLI, Node.js, MySQL*)

Aug 2022 - Nov 2022

Built a secure **online banking portal** with dashboards for transactions, loans, and FDs. Implemented JWT authentication, password encryption, and ACID-compliant transactions for data reliability.

[Java Email Client](#) (*Java, Google SMTP, Multithreading, Design Patterns, OOP*)

Jan 2022 - May 2022

Developed a **desktop email client** with recipient management and automated birthday greetings using multi-threaded scheduling. Implemented persistent contact storage and logging.

[Social Media Web Application](#) (*Angular CLI, Spring Boot, MySQL, Google OAuth, REST APIs*) Feb 2021 - Mar 2022

Designed a **social networking platform** allowing users to post, comment, and connect with friends. Integrated Google Sign-In, friend requests, and post timeline feed with modular backend architecture.

Other Selected Projects:

• [User Preferences Management System](#) • [Log Tracker Application](#) • [FlashGuard Smart Glass Mobile App](#) • [Mobile app to SQLite Database](#) • [Simple-Weather-Predicting-App](#) • [Song Classifier](#) • [ROI Analysis](#)

References

- Dr. Charith Chitraranjan, PhD, MSc, BSc Eng. (Hons), Dept. of CSE, University of Moratuwa, Sri Lanka | charithc@cse.mrt.ac.lk | +94 71 865 0803
- Mr. Sameera Udayangana, Software Architect, WealthOS | sameera@wealthos.cloud | +94 77 228 0754