

Navindu Amarakoon

Software Engineer • AI Engineer

Melbourne, VIC, Australia

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Summary

Software engineer with more than five years of experience building web applications and backend services in TypeScript, React and Node.js. Experience includes medical and business software, recruitment platforms and AI products, with hands-on development and leadership across multiple engineering teams.

Work Experience

Lab24

Remote, USA

Founding Engineer

Jul 2025 to Present

- Design, implement and test Astell features in Next.js and Node.js, with input into product decisions.
- Integrated about 8 workplace tools, including Slack, Google Workspace and GitHub, to ingest company documents and messages.
- Implemented permission-aware search and chat that preserve access controls on ingested data and return answers with citations to source records.
- Implemented a custom temporal knowledge graph to represent changing company information more accurately.
- Added safety guardrails and ran evaluations for retrieval and agent behaviour.
- Separated ingestion, embedding generation and media processing into RabbitMQ background workers.

Stack: TypeScript, Next.js, Node.js, Python, PostgreSQL, pgvector, RabbitMQ

Unwir (PVT) Ltd.

Sri Lanka

Senior Software Consultant (Part-time)

Jan 2023 to Present

- Implemented an ERP for Leninton Medical Centre covering electronic medical records, billing, finance, lab reports, pharmacy and inventory for about 15 staff.
- Digitised paper financial records and automated document generation, reducing preparation from roughly 3-4 weeks to seconds.
- Advise 11 developers on architecture and technology choices, including CI/CD setup and infrastructure selection within client budgets.
- Contribute architecture and implementation support to client projects across fintech, augmented reality and React Native development for Android and iOS.
- Train developers in performance optimisation, code quality and product design, and interview engineering candidates.

Stack: TypeScript, Next.js, Node.js, PostgreSQL, Hono.js, AWS, Google Cloud

La Trobe University

Melbourne, Australia

AI Engineer (Intern, then Part-time)

Jul 2025 to Aug 2026

- Developed a Python and PyTorch pipeline to assess AlphaFold-generated protein structures using a dataset of about 500 human leukocyte antigen structures.
- Implemented template selection and validated the results with biochemistry researchers.
- Implemented test orchestrators to automate model runs and shorten testing and evaluation cycles.

Stack: Python, PyTorch, AlphaFold, Boltz-2

Archipelago Labs

Maldives

Senior Software Engineer

Jun 2024 to Feb 2025

- Led a team of 4 developers across technical design, task planning and implementation for 2 commercial web products.
- Delivered a recruitment platform with CV extraction, candidate summaries and vector similarity search that helped candidates find similar jobs.
- Developed a booking platform for hotel guests to reserve additional services and activities.
- Improved application response times through caching and database indexing.

Stack: Next.js, Node.js, MongoDB, OpenAI API, Google Cloud Vision, AWS ECS

Intentionally Designed Solutions

Remote, USA

Software Engineer

Apr 2020 to May 2024

- Developed the SvelteKit frontend and Node.js backend for The Garden, a social network for artists.
- Reduced API response times by 85% through caching and database indexing.
- Implemented an end-to-end chat feature, then scaled it across application instances with Socket.IO and its Redis adapter.
- Integrated Ethereum wallets and smart contracts for NFT features.
- Developed a crypto analysis platform that ingested real-time market data and generated user-facing insights.

Stack: TypeScript, SvelteKit, Node.js, MongoDB, Redis, Socket.IO, GraphQL, AWS ECS, Ethereum, Web3

Skills

Languages TypeScript, JavaScript, Python

Web Applications React, Next.js, SvelteKit, Node.js, Express, Hono.js

Data and APIs PostgreSQL, MongoDB, Redis, GraphQL, Socket.IO

Cloud and Delivery AWS, Google Cloud, Docker, CI/CD, RabbitMQ

Applied AI LLM integration, retrieval-augmented generation (RAG), pgvector

Education

La Trobe University
Master of Information Technology (Specialisation in Artificial Intelligence)

- WAM: 78.79
- Career Ready Advantage Award - Silver

Melbourne, Australia
2024 to Jul 2026

Sri Lanka Institute of Information Technology (SLIIT)
BSc (Hons) in Software Engineering

Sri Lanka
2020 to 2024

Projects

Backbencher | [Website](#)

2026

- Developed a Chrome extension and web application for Echo360 lecture transcripts, with chat, flashcards and timestamp links.
- Integrated authentication, Stripe billing and AI services across the extension and web application.

Crypto Spark Streaming Analyzer

2025

- Created an Apache Spark Streaming pipeline that ingests and analyses live cryptocurrency market data.

Skin Lesion Classification | [GitHub](#) | [Hugging Face](#) | [Live Demo](#)

2025

- Developed a Next.js and FastAPI application for skin lesion classification, displaying confidence scores and activation maps.
- Trained and evaluated 3 PyTorch models across 7 classes; EfficientNet B0 achieved 73% accuracy and 74% unweighted average recall.

Lankan Urban Dictionary | [Website](#)

2024

- Published a crowdsourced Sinhalese slang dictionary with SvelteKit and MongoDB.
- Optimised MongoDB queries and deployed the application on Google Cloud Run.

Neoplay | [GitHub](#)

2024

- Prototyped an open source Spotify desktop client with Tauri and Rust to reduce the runtime overhead of an Electron application.

Kotaa | [GitHub](#)

2022

- Released an open source URL shortener for self hosting that uses Redis caching to reduce response times.

More at navindu.me

Volunteering

AIESEC in SLIIT
Vice President, Marketing & Digital Experience

Jan 2022 to Jan 2023

- Led the chapter's marketing and digital experience work and coordinated campaigns for events and member initiatives.

SLIIT
Project Manager, Benchmark Designathon

Dec 2021 to Dec 2022

- Organised a university design sprint and bootcamp for more than 200 participants, coordinating a team of 12.