

Dinitha Sasindu Dissanayake

📍 Currently based in Malabe 📞 +94 71 92 96 379 ✉ dinithasasindu10@gmail.com
🌐 sasindu.com linkedin.com/in/dinithadissanayake github.com/DinithaSasinduDissanayake

Education

BSc (Hons) in Information Technology (Data Science Specialization) – Fourth Year Sri Lanka Institute of Information Technology (SLIIT)	2023 – 2027 Malabe
<i>Relevant coursework: Information Retrieval & Web Analytics; Statistical Modelling; Data Warehousing & BI; Machine Learning & Optimization Methods; Massive Data Processing & Cloud Computing</i>	
BSc in Physical Science University of Ruhuna	2024 – 2027 Matara
GCE Advanced Level – Physical Science Dharmaraja College	2022 Kandy

Skills

- **Programming & Systems:** Python, SQL, Ctypes, POSIX Signals/fcntl, TypeScript, R, Bash
- **AI & Agent Engineering:** Multi-Agent Orchestration, LangGraph, PydanticAI, FastEmbed (RAG), Vector Search, BM25, Whisper ASR, Silero ONNX VAD
- **Data & Backend Architecture:** DuckDB, SQLite, FastAPI (SSE Streaming), React 19 (assistant-ui), REST APIs, Data Verification/ETL
- **Tools & Infrastructure:** Git, GitHub, Linux (Kernel/Audio Tuning), Docker, Wayland, Jupyter
- **Collaboration & Team Delivery:** Agile Team Leadership (376 commits), Peer Code Reviews, Technical Communication for Non-Technical Stakeholders

Projects

- FluxPricer – Dynamic Pricing AI System** (*Python, FastAPI, LangGraph, SQLite*) [GitHub](#)
Led a 4-person engineering team to build a multi-agent dynamic pricing platform using Python, FastAPI, and LangGraph to collect market prices, optimize rates, and stream updates via Server-Sent Events (SSE); implemented SQLite tracking for per-user LLM token costs; contributed 376 commits as project lead.
- SAM CLI – Sub-Agent Process Supervisor & Harness** (*Python, POSIX Signals, fcntl, JSON*) [GitHub](#)
Engineered a zero-dependency CLI process supervisor to orchestrate detached background sub-agents; implemented fcntl.flock mutex locking and atomic file renames to prevent race conditions during concurrent multi-agent execution; built non-blocking lifecycle management (spawn, status, kill) with deterministic SIGTERM signal cascades and segregated logging streams.
- PI-CLAW – Hybrid RAG & Multi-Agent Memory Engine** (*FastEmbed, BM25, SQLite, REST API*) [GitHub](#)
Architected an episodic memory and hybrid retrieval engine combining local all-MiniLM-L6-v2 dense vector embeddings (FastEmbed) with BM25 keyword search over a multi-agent markdown knowledge base; implemented a unified REST API server for multi-agent state reconciliation, supporting atomic branch merges and cross-session knowledge retrieval.
- Local Speech-to-Text Engine & Live HUD** (*Python, Ctypes, ONNX, Whisper, PyQt6*) [GitHub](#)
Engineered a low-latency Linux speech transcription daemon binding directly to libwhisper.so (large-v3-turbo) via Python Ctypes; implemented a 150Hz 4th-order Linkwitz-Riley biquad filter and Silero ONNX streaming VAD with 400ms silence detection; built a non-focus-stealing PyQt6 Wayland desktop HUD.
- AI-Native Retail Data Warehouse & Chat Agent** (*DuckDB, PydanticAI, FastAPI, React 19, SQL*) *Private*
Engineered an analytical intelligence platform over 263,000+ real transaction dockets across 8 years; built a Plan-Execute-Validate (PEV) agent orchestrator with PydanticAI to generate, execute, and verify SQL queries against a DuckDB columnar warehouse; implemented driver-level read-only security boundaries and a React 19 assistant-ui chat interface with real-time SSE streaming.

Activities & Languages

- FIDE-Rated Chess Player** [FIDE Profile](#)
Standard rating 1535 (FIDE ID: 9956611). Rated since 2016; competed in national-level tournaments representing Sri Lanka.
- Languages**
Sinhala (Native), English (Proficient)