

Lasana Pahanga

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ABOUT

Computer Engineering undergraduate at the University of Moratuwa, Sri Lanka, specializing in Artificial Intelligence, Machine Learning, and Software Engineering. Passionate about designing intelligent systems that leverage data, automation, and advanced computational techniques to solve complex real-world problems. Experienced in building scalable applications and applying AI-driven approaches to develop practical, impactful solutions. Committed to continuous learning, research, and innovation at the intersection of artificial intelligence and modern software development.

EDUCATION

University of Moratuwa, Sri Lanka

*BSc. (Hons) in Computer Science & Engineering
(Data Science and Engineering Specialization)*

Mar 2024 – Present

- CGPA: 3.57/4.0 (Dean's list in Semester 1)

D.S. Senanayake National School, Ampara

G.C.E. Advanced Level Examination, Physical Science Stream

Jan 2023

- 3As (Island Rank – 312), Z-score: 2.4260

EXPERIENCE

Conducted Advanced Level Combined Maths Classes

Mar 2023 – Aug 2023

- Taught Advanced Level Combined Mathematics to students preparing for national examinations.

Trainee Intern – People's Bank, Ampara

Sep 2023 – Feb 2024

- Completed a trainee internship at People's Bank covering customer service, banking operations, and professional workplace practices.

PROJECTS

AI Video Player (Personal Project)

2026

Technologies: Electron, React, Vite, Express, FastAPI, Python, FAISS, Gemini 2.5 Flash, AssemblyAI, Gladia, OpenAI Whisper, FFmpeg, yt-dlp, Ollama

- Built a desktop video player (Electron/React + Express/FastAPI) for local and YouTube playback, with an AI subtitle pipeline (AssemblyAI, Gladia, Whisper, Gemini) for 100+ languages and speaker diarization.
- Added FAISS semantic search, streaming AI tutor Q&A (SSE), summarization/translation/quizzes, plus FFmpeg/yt-dlp tools for clips, GIFs, auto-sync, and frame extraction.

Govi Isuru (Group Project for Devthon 3.0 2026)

2026

Technologies: React, FastAPI, TensorFlow, Express, Node.js, MongoDB, Docker, Tailwind CSS

- Built an AI smart-farming platform for Sri Lanka with TensorFlow Crop Doctor (Grad-CAM), chat image diagnosis, yield forecasting, community disease alerts, market/weather tools, and a P2P marketplace.
- Architected a Dockerized React + Express + FastAPI + MongoDB stack; achieved 1st Runners-Up and Best AI Team at Devthon 2026.

Growth Intelligence Assistant (Group Project for Veracity Gen AI Hackathon 2026)

2026

Technologies: Next.js 15, Google Gemini 2.0 Flash, Supabase (PostgreSQL + pgvector), SerpAPI, Firecrawl, Apify, Scrape.do, MiroFish, Reddit API, TypeScript, Tailwind CSS, Vitest

- Built a multi-agent growth platform closing the loop from live market signals to campaign execution, with 6 research agents and 3 execution sub-agents for A/B variants and outreach copy.
- Grounded agents via SerpAPI, Firecrawl, Apify, Reddit/HN, and MiroFish (SSE progress streaming); used Supabase pgvector for semantic memory and outcome-driven refine loops.

plango AI (Group Project for Agentrix 2026)

2026

Technologies: Next.js 15, Google Vertex AI (Gemini), Supabase, Firecrawl API, SerpAPI, Scrape.do, OpenWeatherMap API, News API, MiroFish, Tailwind CSS, Vercel

- Built a multi-agent Sri Lankan grocery OS with Gemini meal planning/shopping lists, RAG over inventory and preferences, and Next.js agent orchestration for recipes and savings insights.
- Integrated weather, Firecrawl/Scrape.do, and SerpAPI for personalization. Live Demo

PixelBoost (Personal Project)

Jan 2025 – Present

Technologies: React, Node.js, Python, Real-ESRGAN

- Built an AI image/video upscaling web app with Real-ESRGAN and a full-stack upload-process-download pipeline.

MediaFlow Downloader (Personal Project)

Jan 2025 – Present

Technologies: React, Node.js, Express, yt-dlp, FFmpeg, Server-Sent Events (SSE)

- Built a multi-platform video/audio downloader (YouTube, Facebook, Instagram, TikTok, X, direct URLs) with yt-dlp, parallel downloads, FFmpeg merging/MP3 conversion, SSE progress, cookie auth, and optional aria2c.

Rubik's Cube Trainer (Personal Project)

2025

Technologies: Electron, React, Three.js, Zustand

- Developed a 3D Rubik's Cube desktop trainer with real-time manipulation, move notation, shuffle/reset, and orbit camera controls.

Mora 9s 2026 (Personal Project)

2026

Technologies: React, Vite, Tailwind CSS, Node.js, Express, MySQL, Socket.IO, JWT, Vercel

- Built a live Mora 9s hockey coverage platform with a public fan site and JWT admin dashboard; real-time matches/results/points/scorers via Socket.IO, MySQL, and dual Express APIs. Live Site

Mora Hockey (Personal Project)

2025

Technologies: Flutter, Dart, Firebase, Provider

- Built a Flutter hockey attendance and player-management app with Firebase Firestore real-time sync.

Media Converter (Personal Project)

2025

Technologies: React, Node.js, FFmpeg, Tailwind CSS

- Created a full-stack image/video converter with a React UI and server-side FFmpeg processing.

Hotel SkyNest (Group Project for Semester 3)

2025

Technologies: JavaScript, React, Node.js, MySQL

- Contributed to a hotel reservation system with booking and room management features.

PUBLICATIONS

The Remittance Blueprint: Data-driven Intelligence for Sri Lanka

Aug 2026

Presented at: MERCon 2026 – Moratuwa Engineering Research Conference (planned)

Co-authored a data-driven study of Sri Lankan migration and remittances over 32 years (1994–2025), applying time-series econometrics (ADF, Johansen, VAR/VECM) and supervised learning. Multivariate models outperformed univariate baselines; Ridge Regression improved accuracy by 73.8% over SARIMA and projects 2026 remittances at USD 9,001 Mn.

SKILLS

- **Programming Languages:** JavaScript, Python, Dart, Java, C, C++
- **Machine Learning (Libraries):** TensorFlow, PyTorch, Scikit-Learn, Pandas, NumPy, Seaborn, Matplotlib
- **Frameworks:** React, Node.js, Express, Flutter, Electron, Three.js
- **Databases:** Firebase, MongoDB, MySQL, Supabase
- **Tools & Technologies:** Git, VS Code, FFmpeg, Vite, Figma, Postman, Docker, Google Colab
- **Web & APIs:** HTML, CSS, Tailwind CSS, REST API, Next.js, Vercel, AWS

- **Soft Skills:** Leadership, Teamwork, Communication, Problem Solving, Time Management, Adaptability

CERTIFICATIONS

- LSEG High Performance and Mission Critical Software Development using C++ (LSEG, May 2026)
- Jenkins for Beginners (KodeKloud, Apr 2026)
- Git Basics for DevOps (KodeKloud, Apr 2026)
- DevOps Prerequisite Course (KodeKloud, Apr 2026)
- Network Technician Career Path (Cisco, Apr 2026)
- AWS Academy Graduate – Microservices and CI/CD Pipeline Builder (Amazon Web Services, Feb 2026)
- AWS Academy Graduate – Cloud Foundations (Amazon Web Services, Feb 2026)
- Feature Engineering (Kaggle Learn, Feb 2026)
- Data Cleaning (Kaggle Learn, Feb 2026)
- Intro to Machine Learning (Kaggle Learn, Feb 2026)
- Unsupervised Learning, Recommenders, and Reinforcement Learning (DeepLearning.AI / Coursera, Jan 2026)
- Advanced Learning Algorithms (DeepLearning.AI / Coursera, Jan 2026)
- Supervised Machine Learning: Regression and Classification (DeepLearning.AI / Coursera, Jan 2026)
- Pre Security Certificate (TryHackMe, Jan 2026)
- Master Python for Data Structures & Algorithms – AZ101 (AlgoZenith, Jan 2026)

EXTRACURRICULAR ACTIVITIES

- Captain – Eastern Province Hockey Team (2022)
- Member Hockey Team – University of Moratuwa
- Organizing Team Member Careers Fair 2026 – University of Moratuwa
- Volunteered in A/L and O/L Seminars

ACHIEVEMENTS

- First Runner-Up (University Category) & Best AI Team – Devthon 3.0 (Leo Club of University of Moratuwa, Apr 2026)
- Finalist – Codemania v6.0 (SLTC 2026)
- Finalist – Veracity Gen AI Hackathon 2026 (HatchWorks, Ongoing)
- Finalist – Agentrix 2026 (University of Ruhuna, 2026)
- Finalist – NeuraX 2026 (NSBM Green University, 2026)
- Finalist – Launch26 (University of Kelaniya, 2026)
- University Colors Awardee for Hockey – University of Moratuwa (2024 & 2025)
- Selected for Combined Universities Hockey Team – Junior Nationals (2025)
- Runners-up – Mora 9s Inter-University Hockey Tournament (2025)
- Runners-up – Inter University Hockey Championship (2024)
- Second Runners-up – SLUG (Sri Lanka University Games) 2025
- Dean's List – University of Moratuwa (Semester 1, 2024)