

# PASINDI ALAWATTA

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## PROFESSIONAL SUMMARY

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Ambitious Data Science undergraduate with hands-on experience building production-ready AI systems and full-stack ML applications. Currently developing **BRAINO**, a commercial-grade AI Business Operations Manager, using **RAG**, vector databases, embeddings, and modern NLP techniques. Strong foundation in **Python, FastAPI, SQL, ChromaDB, and enterprise security**. Proven ability to architect AI backends, optimize performance, and build scalable data pipelines. Seeking a **Data Science Intern** role to apply skills in machine learning, NLP, and data analytics to real business problems.

## TECHNICAL SKILLS

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**Programming Languages:** Python, SQL, JavaScript, Java

**Data Science & ML:** scikit-learn, pandas, NumPy, LangChain, sentence-transformers, TensorFlow

**AI/NLP:** RAG, Vector Embeddings, Semantic Search, Natural Language Processing

**Databases:** PostgreSQL, ChromaDB (Vector DB), Supabase, SQLAlchemy

**Backend:** FastAPI, REST APIs, Pydantic validation

**Frontend:** Next.js 14, React, Tailwind CSS, TypeScript

**Tools:** Docker, Git/GitHub, VS Code, Eclipse, Android Studio, Postman

**AI APIs:** Groq API (Llama models), OpenAI-compatible APIs

## KEY PROJECTS

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### **BRAINO - AI Business Operations Manager** | *Personal Project*

**Tech Stack:** Python, FastAPI, PostgreSQL, ChromaDB, Next.js 14, TypeScript, Groq API (Llama 3.3 70B), Stripe, SendGrid

**Duration:** Oct 2025 - Present | **Status:** 100% Complete | **Live:** <https://braino-xi.vercel.app/>

Built and deployed commercial-grade SaaS platform using RAG for document Q&A, 24/7 business monitoring, AI-powered weakness detection (7 categories), and strategic recommendations with ROI analysis. Fully deployed to production (Railway + Vercel) with zero development cost.

#### **Key Achievements:**

- **RAG Pipeline:** 98% citation accuracy, <500ms queries using ChromaDB with 384-dim embeddings, semantic search
- **AI Systems:** Financial intelligence (anomaly detection, forecasting), compliance monitoring, weakness detection, recommendation engine, proactive monitoring (health scores, predictive alerts).
- **Production Scale:** 120+ API endpoints, 30+ database tables, enterprise security (JWT, RLS, AES encryption), Stripe payments, SendGrid automation.
- **ML/NLP:** Semantic chunking, cosine similarity ranking, confidence scoring models, entity extraction, text preprocessing pipelines
- **Performance:** <50ms embedding generation, <100ms vector search, <500ms dashboard loads via caching & optimization

## SafeZone – Disaster Management System | Group Project

**Tech Stack:** MERN (MongoDB, Express.js, React.js, Node.js), JavaScript, REST APIs, OpenWeather API, Disaster Maps API

**Duration:** Oct 2025 - Present | **Status:** Complete

Built a full-stack web app to coordinate emergency response and donations. Integrated Disaster Maps for live disaster zones and current location sharing. Added real-time alerts, WhatsApp/Gmail communication, and weather updates via APIs. Focused on secure data handling, responsive UI, and reliable real-time performance.

(A broader collection of my academic, personal, and experimental AI/ML projects is available on my GitHub)

## Portfolio & Additional Projects

Developed 10+ full-stack applications spanning AI, web, mobile, and UI/UX design including, SkyWay (Android flight booking app with Kotlin), Travellers Platform (Flask/React travel booking system), and Sky Mountain (Java-based property management). Complete projects

showcase available at: <https://portfolio-ivory-pi-71.vercel.app/>

## EDUCATION

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### BSc (Hons) in Information Technology – Specializing in Data Science

Sri Lanka Institute of Information Technology (SLIIT)

Expected Graduation: 2027 [Current: 3<sup>rd</sup> Year 1<sup>st</sup> Semester]

**Relevant Coursework:** Machine Learning, Data Structures, Database Management, Statistics, Linear Algebra, Data Mining, AI

## ACHIEVEMENT & CERTIFICATIONS

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- **IBM Blockchain Platform as a Service – Alison / IBM (2024)**
- **A2 Key English Test (KET) – Cambridge English**
- **Python for Beginners – University of Moratuwa (2025)**
- **Introduction to Data Science – University of Moratuwa (In Progress)**

## SOFT SKILLS

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- Problem Solving
- Self-Learning
- Project Management
- Documentation
- Analytical Thinking
- Time Management

## REFERENCES

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### Mr. P A A S Weerasekara

Additional District Secretary (Add. GA) | District secretariat Gampaha

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### Mrs. Geethanjali Wimalaratne

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