HARIN DULNETH

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SUMMARY

Computer Science undergraduate with a solid foundation in full-stack development and a strong interest in AI developments and applied machine learning. Experienced with .NET/C# and building RESTful APIs, alongside modern web technologies such as JavaScript/TypeScript, React, and Node.js. Familiar with AI/ML tooling and model development workflows using Python, Jupyter/Colab, PyTorch/TensorFlow, scikit-learn, and popular LLM ecosystems (Hugging Face, OpenAI APIs), including prompt engineering and model integration. Comfortable working with SQL and NoSQL data stores, including hosted platforms like Supabase (PostgreSQL) and MongoDB, and with tools such as Git/GitHub, Docker, and CI/CD pipelines; eager to contribute to a collaborative team and deliver reliable, maintainable solutions while continuously learning.

CORE COMPETENCIES

- Python
- Tensorflow
- Javascript, Typescript
- React
- NextJs
- NodeJs
- Express
- .NET

- Sprigboot
- FastAPI, Flask
- SQL, PostgreSQL
- MongoDB
- Supabase
- Redis
- Docker
- Git

PROJECTS

AcademiTrend — Academic Analytics & Career Prediction Platform | Project

- Led backend development of a data-driven academic analytics platform with three ML-powered prediction systems: course enrollment forecasting, pathway enrollment forecasting, and graduate career/salary prediction using 12+ ML models (XGBoost, LightGBM, Random Forest, MLP, Prophet, ARIMA).
- Engineered advanced feature pipelines and 20+ RESTful API endpoints with Flask, incorporating automated model evaluation, hyperparameter tuning, trend analysis, and salary growth visualizations.

CodeMart – Digital Project Marketplace | Project

- Developed a full-stack digital marketplace for buying and selling software projects, featuring Stripe payment integration, Google OAuth authentication, and role-based access control with JWT authorization.
- Built a RESTful API backend using ASP.NET Core (.NET 8) with Entity Framework Core, Supabase (Cloud PostgreSQL), and Docker containerization, supporting project listings, order management, reviews, and transaction workflows.
- Designed and implemented a responsive React (TypeScript) frontend with 3D visualizations (Three.js), GSAP animations, and a rich UI component library (Radix UI + Tailwind CSS), delivering a premium user experience.

Portfolio Website With AI Assistant (Ongoing) | Live Website (https://portfolio-next-js-red-one.vercel.app/)

- Engineered a portfolio website with an AI assistant that uses Retrieval-Augmented Generation (RAG) to answer visitor questions from indexed resume and GitHub data, reducing the need for manual recruiter follow-ups.
- Built a serverless AI pipeline integrating Hugging Face embeddings, Upstash Vector DB, Groq LLM (Llama 3.1), and Redisbased session memory with automatic conversation summarization.
- Crafted an immersive UI with custom WebGL shaders (CPPN neural network visualizations), interactive Perlin noise wave canvas, Spline 3D elements, and glassmorphic components — all built with Next.js 15 and Tailwind CSS.

Bus Tracking System (Ongoing) | Real-Time Transit Intelligence Platform

- Developed a full-stack real-time bus tracking system featuring an ML-powered ETA Fusion Engine that blends LightGBM/XGBoost predictions, historical segment data, and schedule information using adaptive confidence-weighted scoring.
- Built a crowd-sourced arrival confirmation pipeline with ML validation, geolocation verification, and a reporter reputation system, with real-time WebSocket updates (Socket.IO) and Redis caching.
- Tech Stack: Node.js, Express, FastAPI, PostgreSQL, Redis, Socket.IO, React, LightGBM, XGBoost, scikit-learn, Pydantic

Nexus PM System | Project

- Led backend development of a collaborative project management platform with deep GitHub integration, selected for Student Research Symposium 2025 held by the faculty.
- Built RESTful APIs with GitHub OAuth, automated repo/issue/branch synchronization, role-based access control, and a polymorphic notification system using FastAPI, PostgreSQL (Supabase), SQLAlchemy, and GitHub REST API.

EDUCATION

Bsc. in Computer Science (Hons)   *2023 - Present*
University of Kelaniya, Sri Lanka
Specialize in Artificial Intelligence (Current GPA - 3.82)

Grade 01 - A/Ls   *2008 - 2022*
Isipathana College, Colombo 05

CERTIFICATES

- IBM Cloud Essentials | IBM | Credential ID: ededb5b52cb14d2e97a793e6a9d9ca6f
- AI/ML Engineer - Stage 1 | SLIIT Faculty of Computing | Credential ID: gmexqtxahn
- AI/ML Engineer - Stage 2 | SLIIT Faculty of Computing | Credential ID: txqnjcawyu

ACHIEVEMENTS

- **KelaniXtreme - 1st Place (IEEE Student Branch University of Kelaniya)**
- **Paticipated in SpiritX - Inter University Development Competition (MoraSpirit)**
- **Participated in IX'25 - Designathon (IEEE Student Branch of IIT)**
- **Participated in ICDS 2025 - Mini-Hackathon (Stat Circle of the University of Colombo)**

SPORTS

- 2nd Runners Up - Rugby (Inter Faculty Tournament 2025)
- Swimming Team - Isipathana College (2016 - 2019)