

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, Groq 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

- FastAPI, Flask
- Python
- Tensorflow, PyTorch Frameworks
- HuggingFace, Groq API, Google Colab
- Machine Learning, LLM & ML operations
- .NET, Springboot
- Node.js, Express
- JavaScript, TypeScript
- Next.js, React
- SQL, PostgreSQL
- Redis, MongoDB, Supabase
- Git, Docker, CI/CD

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 Redis-based 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.

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

- Ongoing 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 - Project Management 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.

Whisper – Full-Stack Secure Messaging App | Project

- Developed a full-stack real-time chat application with secure authentication using JWT, OTP-based registration via Gmail SMTP, and WebSocket-powered instant messaging.
- Built the backend with Java, Spring Boot, and PostgreSQL, implementing RESTful APIs, real-time WebSocket communication, and Cloudinary integration for media uploads.
- Designed a responsive React (TypeScript) frontend with Tailwind CSS, featuring profile management, floating contact modals, and clean modular architecture using React Context 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

- AI & ML Engineering Specialization | Microsoft | Credential ID: [DZ6XR637YI5Q](#)
- Advanced AI and Machine Learning Techniques and Capstone | Microsoft | Credential ID: [710TWTF11X7Q](#)
- Microsoft Azure for AI and Machine Learning | Microsoft | Credential ID: [PUCA2NJTQZG2](#)
- Building Intelligent Troubleshooting Agents | Microsoft | Credential ID: [8FQQ7NBIAVZM](#)
- IBM Cloud Essentials | IBM | Credential ID: [ededb5b52cb14d2e97a793e6a9d9ca6f](#)

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)**

EXTRA-CURRICULAR

- Member - IEEE Sri Lanka Section (2024/25)
- Member - Computer Science Student Association (2023 - Present)
- Member - Free Open-Source Software Community (2024 - Present)
- Rugby - 2nd Runners up (Inter Faculty Tournament 2025)