DINITH PRIYANKARA

COMPUTER ENGINEERING UNDERGRADUATE

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PROFILE SUMMARY

Final-year Computer Engineering undergraduate with growing experience in backend development, machine learning, and embedded systems. Involved in a range of practical projects, including full-stack web applications, computer vision models, and IoT-based solutions. Comfortable working across teams and learning new technologies. Interested in contributing to meaningful, technology-driven solutions that bridge software, AI, and hardware.

EDUCATION

BSc. Engineering (Hons.) In Computer Engineering   **Apr 2022 - Present**

University Of Jaffna

PROJECTS

Understanding LSTM Models with Explainable AI (XAI) ([GitHub](#))   **Jan 2025 – Present**
- Applied LSTM models to forecast industrial energy consumption using time-series data with varying window sizes.
- Evaluated single, stacked, and bidirectional LSTM architectures for performance and accuracy.
- Used SHAP, LIME, and Integrated Gradients to analyze feature importance and time-step relevance, enhancing model interpretability.

Tech Stack: Python, TensorFlow, Keras, SHAP, LIME, Integrated Gradients, Pandas, NumPy, Matplotlib

Automated Examination System ([GitHub](#))   **Jan 2025 – Jun 2025**
- Built the backend for a full-stack examination system with Spring Boot and PostgreSQL, featuring user auth, exam management, and result processing.Designed database schema, optimized queries, and implemented role-based access control (RBAC).
- Collaborated with frontend devs to define API contracts and ensure smooth integration.

Tech Stack: Spring Boot, PostgreSQL, React, REST APIs, Git, GitHub

All-in-One Adventure Companion Wearable ([GitHub](#))   **Jan 2025– Apr 2025**
- Developed a Flutter application for Bluetooth Classic communication between Android devices and the ESP32-based wearable, enabling device scanning, connection management, and terminal-style data exchange.
- Coordinated closely with hardware and firmware teams to ensure seamless integration and reliable communication between the wearable and the mobile app.

Tech Stack: Flutter, Dart, Bluetooth Classic, ESP32, ESP-IDF, Embedded C

WebRTC Music Jam Platform ([GitHub](#))   **Mar 2025– Jun 2025**
- Developed a real-time collaborative music jamming web application using WebRTC, Socket.IO, and JavaScript. Enabled musicians to join virtual rooms for low-latency audio/video streaming, text chat, screen sharing, and interactive mic/camera control.

- Designed a responsive UI for seamless use across devices, facilitating remote band practice, songwriting, and live collaboration.

Tech Stack: WebRTC, Socket.IO, Node.js, JavaScript, HTML/CSS

Football Player Detection with YOLOv8 ([GitHub](#))   **Oct 2024– Dec 2024**
- Fine-tuned a YOLOv8 object detection model to accurately detect football players and referees in match footage. Integrated with OpenCV for real-time video processing and visualization, including automatic team-wise player identification and marking.
- Enabled enhanced player tracking and analytics in sports video analysis.

Tech Stack: Python, YOLOv8, OpenCV, PyTorch

SKILLS

- **Programming Languages:** Java, Python, C++, JavaScript (Vanilla)
- **Software Development:** Spring Boot, REST APIs, SQL, HTML, CSS, CI/CD (GitHub Actions), Test Automation
- **Machine Learning & AI:** TensorFlow, Keras, scikit-learn, Neural Networks (MLP, CNN, RNN, LSTM), YOLO, Hugging Face Transformers, LangChain, Explainable AI
- **Embedded Systems:** ESP32 (ESP-IDF), AVR Programming (ATmega)
- **Data & Analytics:** NumPy, Pandas, OpenCV
- **Networking & Security:** Basic network configuration, security protocols
- **Tools & Frameworks:** Git, Docker, JUnit

CERTIFICATIONS

- Javascript Practicals Crash Course   (*Certificate link*)
- Professional Certificate in SQL and SQL for Data Analysis   (*Certificate link*)
- Linux Terminal for beginners   (*Certificate link*)

AWARDS AND ACHIEVEMENTS

- **AlgoXplore 1.0**   **Jan 2025**
- **MoraXtreme 9.0**   **Oct 2024**

VOLUNTEERING

IESL Student Member   **Nov 2023 - Present**

- Actively participated in IESL-organized projects like techno exhibition, applying engineering knowledge to solve real-world problems while developing leadership abilities.

REFEREES

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