

D.K. Senum Januda Dodangoda

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PROFILE

I am a dedicated professional interested in exploring innovations and research related to Machine Learning, Deep Learning, Computer Vision, Signal Processing, GenAI, XAI, TinyML, and IoT.

EXPERIENCE

OCTAVE - John Keells Holdings PLC

Dec 2024 – Present

Machine Learning Engineer Intern

- Designed and implemented a **custom model drift detection framework**, capable of detecting **concept drift** in **large-scale data environments**.
- Gained strong **project management skills** by collaborating with cross-functional teams and delivering project milestones on time.
- Developed a **document and signature classification system** for the GenAI project at **Union Assurance**.

WIWIS.AI

Nov 2024 – Present

AI Engineer – Contract – Part-time

- Designed and deployed a **computer vision-based passenger bus management system**, running on an **OrangePi 5 Pro**, providing comprehensive oversight of the bus system including passenger tracking, real-time monitoring, and route optimization.

EDUCATION

University of Moratuwa

B.Sc. in Electronic and Telecommunication Engineering

Moratuwa, Sri Lanka

CGPA - 3.62/4.00

Feb 2022 – Present

C.W.W. Kannangara Central College

Advanced Level - Physical Science (3As), Ordinary Level (9As)

Mathugama, Sri Lanka

Z-Score: 2.1001

2007 – 2020

ESOFT Metro Campus

Diploma in English, Diploma in Information Technology

Kalutara, Sri Lanka

Dual Medalist

2021

CERTIFICATIONS

Machine Learning and Artificial Intelligence

- * Oracle Cloud Infrastructure 2024 Generative AI Certified Professional – *Oracle University*
- * Machine Learning Specialization, Deep Learning Specialization, GANs – *DeepLearning.AI*
- * Machine Learning with Python – *FreeCodeCamp*
- * Introduction to Machine Learning – *Kaggle*
- * Machine Learning Using AWS – *Udemy*

PROJECTS

Machine Learning Mini Projects (Guided)

- **Deep Learning-Based Image Colorization** 🔗 Jun 2024
Description: This project focuses on using deep learning techniques to colorize black and white images automatically.
- **Drawboard using OpenCV and MediaPipe** 🔗 Jun 2024
Description: A drawing application utilizing hand gestures detected via MediaPipe for interactive drawing tasks.
- **Face Recognition Attendance System** 🔗 Jun 2024
Description: Python-based system employing OpenCV and scikit-learn for face recognition and attendance logging.

• Other Projects

- **Computer vision-based passenger bus management system** [🔗](#) Ongoing
Designed and deployed a computer vision-based passenger bus management system, running on an OrangePi 5 Pro, providing comprehensive oversight of the bus system including passenger tracking, real-time monitoring, and route optimization.
- **Computer vision-based bus driver drowsiness detection and alerting system** [🔗](#) Ongoing
Designed and deployed a computer vision-based passenger bus drowsiness system, providing real-time alerts and prevents accidents.
- **Automated Traffic Management System (ATMS)** [🔗](#) Sep 2024
Description: Utilizes computer vision, data analytics, and machine learning for real-time traffic monitoring and optimization.
- **Expandable Battery Management System** [🔗](#) Nov 2024
Description: IoT-based Battery Management System for Li-ion cells, featuring Master-Slave architecture and various protection mechanisms.
- **Web Application using React - Expandable Battery Management System** [🔗](#) Nov 2024
Description: Developed a web application for the IoT-based Battery Management System.
- **Analysis of Eye Diagrams and Equalization** [🔗](#) Apr 2024
Description: MATLAB-based analysis of PAM signaling and design of a zero-forcing equalizer for multipath channels.
- **MediBox using ESP32 and NodeRED** [🔗](#) Apr 2024
Description: IoT application for managing medication leveraging ESP32 microcontroller and NodeRED platform.
- **Sri Lankan Robotics Challenge** [🔗](#) Mar 2024 - Apr 2024
Description: Designed a robot to Sri Lankan Robotics Challenge.
- **Micromouse Maze Solver** [🔗](#) Jul 2024
Description: A micromouse using STM32 that can solve a maze.
- **100W Linear Power Supply - Analog Lab Project** [🔗](#) Nov 2023 - Dec 2023
Description: Design and implementation of a robust linear power supply for electronic applications.
- **Robot Design and Competition** [🔗](#) Nov 2023 - Dec 2023
Description: Design of a versatile robot capable of tasks such as line following and object interaction.
- **TrashMonitor - Engineering Design Project** [🔗](#) Mar 2022
Description: Engineering design project focused on monitoring and managing trash.

AWARDS AND SCHOLARSHIPS

Dean's List: Semester 4

43rd out of 380+ teams: MoraXtreme 9.0 Oct 2024
IEEE Student Branch, University of Moratuwa

Finalists: Sri Lankan Robotics Challenge - 2024 Mar 2024
Electronic and Telecommunication Engineering, University of Moratuwa

Finalists: ComFix 2024 June 2024 - Ongoing
IEEE Student Branch, University of Moratuwa

Finalists: EVOLVE' 24 IoT Based Mini Research Challenge Jul 2024 - Ongoing
Department of Physics and Electronics, Faculty of Science of University of Kelaniya

5th Place: Buddhi Prabodhaya Western Province Mathematics Competition Jul 2019
Ministry of Education

VOLUNTEERING EXPERIENCE

Visiting Instructor, Electronic & Telecommunication Engineering, UoM Aug 2024 - Oct 2024

- EN2533 - Robot Design and Competition

Lab Demonstrator, EXMO 2023, UoM Jul 2023

- Digital Laboratory Demonstrator

Graphic Designer: Electronic Club, UoM

Aug 2023 - Aug 2024

- Envoyage 2023
- Abhina 2024
- Sri Lankan Robotics Challenge 2024
- E-Care 2024
- E-Carrier Magazine - April 2024 Issue
- Organizing Committee - ENTC Career Fair

Video Coordinator: Electronic Club, UoM

Aug 2024 - Present

IEEE Student Branch, University of Moratuwa

2022 - Present

- FestX 6.0 - Video Editor Lead
- VRCade 2024

Rotaract Club, University of Moratuwa

2024 - Present

- Weekly Tech Byte
- Mora TechConnect

SKILLS

Languages: English (Professional proficiency), Sinhala (Native proficiency)

Programming Languages & Frameworks: Python, PySpark, Torch, TensorFlow, Keras, FastAPI, Scikit-Learn, OpenCV, ONNX, NestJS, C, C++, JavaScript, MATLAB

Cloud Platforms & DevOps:

Microsoft Azure: Azure Functions, Azure Logic Apps, Azure DevOps, Azure ML, Azure SQL, Azure Databricks

Amazon Web Services (AWS): S3, Lambda, SageMaker

Machine Learning & AI Tools: Hugging Face, OpenAI API, LLama, LangChain, Evidently AI, MLflow, Deepchecks, Haystack, Pinecone

MLOps & Model Deployment: Docker, FastAPI, Azure DevOps, Azure Databricks, Azure SQL, Kubernetes, Redis, Celery

Engineering Tools:

PCB Design: Altium Designer, Flux.AI

Telecommunications: Simulink, Wireshark

Enclosure Design: SolidWorks

Electronic Circuit Design & Simulation: Multisim, LTspice, Proteus

FPGA Programming: Quartus Prime

Graphic Design: Canva, Adobe Photoshop

Sports: Cricket, Swimming, Football, Badminton