Oshani Jayawardane

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AREAS OF INTEREST

Low-Complexity Algorithms and Optimization | Data Science and Machine Learning | Deep Learning | Systems Engineering | Scientific Computing | Digital Signal Processing

EDUCATION

M.S. in Data Science	Jan 2025 – Present
Embry Riddle Aeronautical University , Daytona Beach, FL	**Current GPA: 4.0/4.0**
B.Sc. Eng. (First Class Hons) in Electrical and Electronic Engineering	Nov 2018 – Jul 2023
University of Sri Jayewardenepura, Nugegoda, Sri Lanka	**GPA: 3.7/4.0**

ACADEMIC EXPERIENCE

Embry Riddle Aeronautical University

Graduate Research Assistant	NSF Funded Projects	Jan 2025 – Present
Graduate Teaching Assistant	Mathematics and Python	July 2025 – Present

University of Sri Jayewardenepura

Research Assistant	STHRD Project on Smart wearable for patient monitoring and alerting system	Nov 2023 – Dec 2024
Assistant Lecturer	Modules: Medical Informatics, Biomedical Instrumentation	Nov 2022 - Dec 2023

INDUSTRIAL AND OTHER WORK EXPERIENCE

Database and Middleware Engineer | *Millennium IT ESP, 450D, R. A. De Mel Mawatha, Sri Lanka*   June 2023 – Nov 2023
- Oracle Database installation and maintenance.
- Oracle Cloud Infrastructure Training and Certifications.

R&D intern | *Sri Lanka Telecom PLC, Lotus Road, Colombo 01, Sri Lanka*   Jan 2022 - July 2022
- IoT solution for agricultural applications-from hardware to dashboard.
- Technologies: MQTT, OSI layers, ESP32, MERN stack, WebSockets

Trainee - Technical Project Management | *Ooredoo Telecommunications, HQ2, Doha, Qatar*   Nov 2021 - Dec 2021

TECHNICAL SKILLS

- Programming: Python, C++, MATLAB, MERN Stack, Git
- Machine Learning and Image Processing: TensorFlow, Keras, PyTorch, OpenCV
- Software/Tools: Tableau, Notion, Figma, Microsoft Office tools, GitHub
- Databases: MySQL, MongoDB, Oracle
- Documentation: LaTeX / Overleaf

CURRENT RESEARCH AND PROJECTS

- A Low-complexity Polynomial Ring Learning Algorithm for Quantum Space Assets
- A Low-complexity Algorithm to Locally Recover Erasure Codes
- Theories of Matrix Factorization into Spacecraft Trajectory Generation
- DCT-III Structured Linear Regression Model for Image Reconstruction
- Data Visualization Project (Data-Driven Risk and Safety Analysis for Aviation): Click here to access dashboard
- Data Mining Project: Data-Driven Analysis and Predictive Modeling of Pilot Cognitive States for Enhanced Flight Safety
- A Logistic SaaS system for a Restaurant Chain (An Individual Ongoing Project)

PUBLICATIONS - ORCID LINK

- Jayawardane, O., Aluvihare, H., Li, X., Perera, S.M. **A Low-complexity Generator Matrix-influenced Algorithm to Globally Recover Algebraic Codes over Finite Fields** – under review at IEEE Transactions on Information Theory

- Aluvihare, H., Murarisetty, S., Jayawardane, O., Anderson, A., Canales, D., Perera, S.M. **A Comparison of Data-Driven Learning Algorithms to Predict Trajectories in the DRO Family** – AIAA SciTech 2026
- Jayawardane, O., Induwara, M., Gunathilaka, H., Fernando N., Weerasinghe, B., Wijewardhana, U.L., **Overview on Data Handling, Task Management, and Communication Optimization Strategies in Internet of Medical Things (IoMT)** – IEEE Internet of Things (DOI: 10.1109/JIOT.2026.3662482)
- Jayawardane, O., Kuzmicki, A., Gayanath, B., Madanayake A., Perera, S.M., **An Economical DVM-DFT Algorithm to Realize Wideband Multi-beam Beamformers** – under review at IEEE Transactions on Signal and Information Processing over Networks
- Balagalla, U.B., Jayawardane, O.V., Jayasooriya, J.V.D., De Alwis, C. and Subasinghe, A., 2024. **Cost-Efficient Light-Weight YOLOv5s for Whole Fetus Detection in Early-Stage Ultrasound Scans**. Advances in Technology, 4(02).
- Jayawardane, O., Induwara, M., Gunathilaka, H., Fernando N., Weerasinghe, B., Wijewardhana, U.L., **Edge AI-based Smart Patient Monitoring and Alerting System** — Presented at the International Conference on Recent Advances in Engineering and Technology (ICRAET) 2025, organized by the International Institute of Education, Research and Development (IIERD).

AWARDS & ACHIEVEMENTS

Embry-Riddle Aeronautical University
- **Best Overall Graduate Poster** at 2025 Student Research Symposium ERAU

University of Sri Jayewardenepura
- **Dean's List Award** in Semesters 2,6,7 and 8
- **2nd Place** Final Year Project Evaluation 2023 by the Department of Electrical and Electronic Engineering (Bachelor)

PROFESSIONAL AFFILIATIONS AND CERTIFICATIONS

Engineering and Design
- Diploma in Web Engineering (Pearson Assured)
- Diploma in AutoCAD (Pearson Assured)
- Machine Learning Specialization - Coursera, offered by deeplearning.ai (MOOC)   Credential ID: ADM8PB8UWWE5
- Computer Vision and Image Processing - Coursera, offered by IBM (MOOC)   Credential ID: BLK4G4J35LYQ

Accountancy and Management
- CIMA - Certificate Level (completed)   ID: 1-2YZWNMP
- Diploma in Business Management (Pearson Assured)

Information Technology and Data Management
- Oracle Professional Certifications: Oracle Cloud Infrastructure Foundations Associate | Oracle Data Management Foundations Associate | Oracle Machine Learning Associate

LEADERSHIP EXPERIENCE AND STUDENT ORGANIZATIONS

AIESEC Global Organization	*Team leader at incoming Global Talent USJ*	2019 – 2021
Institute of Engineers Sri Lanka - Students Chapter	*Member, Assistant Secretary, Secretary*	2021 – 2024
STEMUP Sri Lanka	*University Coordinator*	2019 - 2022
Founder & Director	*Vimansa STEM Foundation (Non-Profit Organization)*	2023 - Present