

PIYAMINI DE SARAM

ML ENGINEER | AI CONSULTANT | ODOO DEVELOPER | BSC (HONS) IN APPLIED SCIENCES SPECIALIZING IN COMPUTER SCIENCE,
UNIVERSITY OF SRI JAYEWARDHENEPURA

✉ jayodya7desaram@gmail.com,  www.linkedin.com/in/piyamini-de-saram-b7ba3027a,  https://github.com/PiyaJ7,

 https://piyamini-de-saram.pages.dev/



PROFILE

A self-motivated and results-driven Machine Learning Engineer with hands-on experience in AI/ML development, Data Engineering, Data Analytics, and Software Engineering. Known for a strong problem-solving mindset, consistently approaching challenges with creativity and innovation. Demonstrates adaptability, continuous learning, and a proactive attitude in dynamic environments. Recognized for instilling confidence in teams and embracing new opportunities with enthusiasm and an open mind.

WORK EXPERIENCE

Deep Data Insight

August 2025 - Present

Machine Learning Engineer

- Developed and maintain an AI-based insurance document processing system for automated extraction of data from Explanation of Benefits (EOB), and other insurance documents.
- Integrated OCR and document analysis workflows to process scanned and digital documents.
- Developed and maintain an automated document intake workflow that monitors incoming documents and routes them through AI-powered processing pipelines.
- Designed a human-centric AI Companion architecture focused on conversational memory, contextual understanding, natural responses and proactive follow-ups.

Tech Stack: Python, Large Language Models (LLMs), OCR Technology, MongoDB, IIS (Internet Information Services), REST APIs, PostgreSQL

Enliven Designers (Pvt) Ltd

April 2025 - March 2026

Machine Learning Engineer & AI Consultant

- Managing and administering the entire Odoo platform, including user roles, access control, system configuration, and performance monitoring to ensure stable and secure operations.
- Working on automating business workflows across HR, inventory, accounting, and project management using Odoo, improving operational efficiency and reducing manual processes.
- Providing AI and technical consultancy to the development team, guiding solution design, architecture decisions, and best practices for implementing intelligent and scalable systems.
- Supporting the integration of AI-driven and automation-based enhancements into existing enterprise workflows to improve productivity and decision-making.

Tech Stack: Python, JavaScript, Odoo Platform, React Native, Figma, PostgreSQL, RESTful APIs, Linux, Git, GitHub, GitHub Workflows, LLM Integration

Dialog Axiata PLC - Group Analytics & AI

January 2025 - July 2025

AI/ML (MLOps) & Data Engineer - Intern

- Implemented a new no-code/low-code platform using Amazon QuickSight, enabling non-technical users to access and analyze data independently.
- Upgraded and migrated Amazon SageMaker notebooks to a new version, ensuring compatibility and leveraging updated features.
- Managed and maintained on-premise Apache Kafka environments, ensuring high availability and performance.
- Managed the user governance process for Snowflake, including access controls and role management.
- Supported the migration of a data landing server, which handled and processed over 1TB of data daily.

Tech Stack: Python, Snowflake, Kafka, AWS S3, SageMaker, Bedrock, Lambda, QuickSight, AWS SNS, CloudWatch, Collibra, Tableau, SQL, LLM, Linux

Enliven Designers (Pvt) Ltd

July 2024 - March 2025

Intern Python Developer

- Developed and maintained backend systems and automation scripts using Python to support business applications and internal workflows.
- Designed and deployed multiple custom Odoo ERP modules to automate business processes across HR, finance, inventory, and project management, improving operational efficiency.
- Administered and configured the Odoo platform, including user roles, access control, and system settings to ensure secure and scalable system operations.
- Monitored and maintained server infrastructure, including Python environment management, dependency updates, and performance optimization of deployed systems.

Tech Stack: Python, JavaScript, Odoo Platform, React Native, Figma, PostgreSQL, RESTful APIs, Linux, Git, GitHub, GitHub Workflows, LLM Integration

EDUCATION

BSc(Hons) in Applied Sciences Specializing in Computer Science - 2nd Class Upper Division

2021 - 2025

University of Sri Jayewardenepura - 3.50 GPA

ACHIEVEMENTS

- Published Research on "Enhanced Weakly Supervised Learning for 3D Hand Pose Estimation", in International Conference on Advanced Research in Computing (ICARC) 2026.
- Published Research on "Accurate 3D Object Detection with Minimal Labels: A CAM-Guided Weak Supervision Strategy", in International Conference of Image Processing and Robotics (ICIPRoB) 2026.
- Winner - Distinguished Social Impact Innovation at the Computer Vision Projects Expo 2024 organized by Ready Tensor.
- 2nd Runners Up - FUTURUM AI Innovation Challenge 2024 organized by University of Sri Jayewardenepura.
- Finalist - Data Odyssey 2024, Software Innovation Competition organized by KDU.

TECHNICAL SKILLS

- **Languages:** Python, JavaScript, Java, C, R
- **Framework & Libraries:** TensorFlow, PyTorch, Scikit-Learn, LangChain, React.js, React Native, Node.js, Express.js, Bootstrap, Material UI, Tailwind CSS
- **AI/ML & Data Science:** LLM Integration, Agentic AI, Retrieval-Augmented Generation (RAG), Machine Learning, Deep Learning, OCR (Optical Character Recognition), Computer Vision
- **Data Engineering:** Snowflake, Apache Kafka, MongoDB, MySQL, Neo4j, PostgreSQL
- **Cloud & DevOps:** AWS, Linux
- **Tools & Platforms:** Postman, Git, GitHub, GitLab, Jenkins, Figma, Odoo

PROJECTS

Enhanced Weakly Supervised Learning for 3D Hand Pose Estimation

Publication: International Conference on Advanced Research in Computing (ICARC) 2026

- Developed an enhanced weakly supervised learning framework using EfficientNet-B0 with a regression head for accurate 3D hand joint prediction from RGB images, effectively leveraging limited annotated data.
- Designed a hybrid EfficientNet-B0 + LSTM model to capture both spatial and temporal features of hand movement, improving 3D hand pose estimation performance.

Tech Stack: Python, PyTorch, EfficientNet-B0, LSTM, NumPy, Pandas, Matplotlib, GitHub

Accurate 3D Object Detection with Minimal Labels: A CAM-Guided Weak Supervision Strategy

Publication: International Conference of Image Processing and Robotics (ICIPRoB) 2026

- Implemented a CAM-guided weak supervision strategy for object detection, integrating data augmentation and advanced training techniques to boost mAP under sparse labeling conditions.
- Developed a pseudo-label generation pipeline using image-level classifiers and Grad-CAM, followed by YOLOv8 training, enabling accurate bounding box prediction for multiple object classes.

Tech Stack: Python, PyTorch, EfficientNet-B0, LSTM, YOLOv8, Grad-CAM, OpenCV, NumPy, Pandas, Matplotlib, GitHub

AI-Powered Insurance Document Processing System

Associated with Deep Data Insight

- Developed an intelligent document processing solution capable of automatically classifying and extracting structured data from various insurance documents, including Explanation of Benefits (EOBs) and other insurance documents.
- Enhanced extraction accuracy by optimizing OCR and Large Language Model (LLM) workflows, implementing advanced prompt engineering techniques, and improving support for multi-claim documents containing complex layouts and multiple service records.

Tech Stack: Python, Large Language Models (LLMs), OCR, MongoDB, REST APIs

MoM: AI-Powered Addiction Recovery Platform

Associated with Deep Data Insight

- Developed multiple AI-powered modules for a digital recovery platform designed to support individuals recovering from substance addiction, providing personalized guidance, emotional support, and self-improvement tools throughout their recovery journey.
- Designed a human-centric AI Companion for individuals recovering from Substance Use Disorder (SUD), leveraging conversational memory, contextual understanding, and personalized support to encourage engagement throughout the recovery journey

Tech Stack: Python, LLMs (Large Language Models), PostgreSQL, Redis, Flask, REST API

Transforming GenBI with Real-World LLMs & Dynamic Data Intelligence Loops

Associated with Dialog Axiata PLC

- Developed a data processing pipeline to extract JSON data from Collibra, preprocess it using AWS SageMaker, and implement a Bedrock flow to generate calculated fields in QuickSight using Claude LLM.
- Developed a feedback analysis mechanism that monitors user interactions in QuickSight, monitor user queries, and formulates corrective solutions via Claude LLM, and notifying subscribers through AWS SNS.

Tech Stack: Python, AWS Bedrock, AWS S3, AWS Lambda, AWS SageMaker, AWS SNS, QuickSight, Collibra, LLM

Eye-Controlled Mouse System Using Real-Time Face Mesh Detection

- A computer vision-based accessibility solution that enables hands-free computer interaction by tracking eye movements through a webcam and translating them into mouse cursor actions.

Tech Stack: Python, OpenCV, Dlib, NumPy, PyAutoGUI

REFERENCE

Eshan M. Herath

Chief Data Scientist,
Deep Data Insight Pvt Ltd,
No 19,
4 Nawala Rd,
Nugegoda,
Sri Lanka.
Phone: (+94) 718 258 943
Email : eshan@deepdatainsight.com

Chamali Liyanage

Senior Lead- Data Engineer,
Dialog Axiata PLC,
No. 475,
Union Place,
Colombo-02,
Sri Lanka
Phone: (+94) 777 334 520
Email : chamali.liyanage@dialog.lk