SAVINDI WIJENAYAKA

Machine Learning Engineer & Researcher

+64 22 453 8372
savindi.com
savindi.narmada@gmail.com
linkedin.com/in/savindi
Auckland, New Zealand
savindi-wijenayaka.medium.com

Summary

Machine Learning Engineer and Researcher with 3 years of industry experience developing and deploying scalable deep learning systems in cloud-native environments. Brings 7 years of experience in Python, along with extensive work across modern ML frameworks, containerisation, orchestration, and CI/CD pipelines. PhD from the University of Auckland, with research spanning medical imaging, deep learning, applied mathematics, and computational analysis. Focused on translating research into robust, real-world AI solutions.

Experience

Intermediate Machine Learning Engineer

Auror · **Full-time** | Sept 2025 - Present | Auckland, New Zealand

Auror is a retail crime intelligence platform that provides AI-enhanced capabilities to prevent crime.

- Architected and developed a modular and extendible ML evaluation and fairness reporting framework to accelerate the prospect trial phase; reduced report turnaround by 80%, shortening the path to technical win.
- Optimized Vision-Language Model (VLM) performance by engineering robust prompt strategies to mitigate edge-case failures; ensured production readiness and model reliability for a new Auror feature.

Machine Learning Engineer

WSO2 · **Full-time** | Sept 2020 - Nov 2021 | Colombo, Sri Lanka

WSO2 is one of the world's leading open-source integration vendors. Choreo is its latest product, providing an AI-enhanced integrated platform as a service.

- Researched and developed a GPT-based deep learning model, using Python, Flask, and Keras, deployed on Azure Kubernetes Service, for automating test case generation for the APIs developed by customers in Choreo, resulting in a reduction of the customers' manual effort.
- Co-architected and implemented Choreo's AI Anomaly Detection system using Azure Stream Analytics, Event Hubs, T-SQL, and Function Apps, integrating microservices via event-driven architecture for secure, scalable cloud deployment, enabling customers to detect abnormal application behaviours early on.
- Implemented regression tests for detecting performance degradations and resource utilization issues in the Ballerina Language Server in the Choreo Editor, using Python, JMeter, Azure Log Analytics Workspace, and Azure DevOps pipelines, ensuring consistent performance and reliability for users.
- Diagnosed and resolved a critical memory leak in the Ballerina Language Server using JMeter and Eclipse Memory Analyser, which prevented server crashes and improved resource efficiency in the Choreo Editor.

Software Research Engineer

Pearson · **Internship** | Sept 2018 - Sept 2019 | Colombo, Sri Lanka

Pearson is a leading Education provider, offering curriculum materials, multimedia learning tools, and testing programs to help educate people worldwide.

- Researched and implemented deep learning modules for emotion detection and speech analysis in the AI-based Public Speaking Evaluator Service, using Keras, Kaldi, and OpenCV. Integrated models into RESTful services (Flask, later Django) and automated deployment via Ansible for scalable real-time evaluation.
- Examined Question Answering and Machine Comprehension to build a Q&A chatbot service for Pearson's educational content, using AllenNLP and BiDAF, later extending it with fine-tuned BERT and GPT-2 models, exposing the service via a Django REST API and automated deployment using Ansible.
- Investigated and developed a flashcard classification service using ULMFiT, LSTM, and GRU to automatically categorise flashcards created by students or the system, deployed via Django REST framework.

Education

Ph.D. in Bioengineering

University of Auckland Dec 2021 - May 2025 Auckland, New Zealand

A deep learning centred computational framework was developed for automated 3D gastric microstructure analysis, integrating dataset curation, ground truth labelling, semantic segmentation, and downstream 3D computational quantification to enable scalable, reproducible anatomical assessment and modelling.

- Engineered a semantic segmentation model integrating multiscale channel and spatial attention mechanisms; conducted extensive ablation studies to optimize architecture, resulting in an automated pipeline that reduced manual analysis time by over 40 hours per dataset.
- Developed a robust Python-based 3D quantification framework and data pipeline, transforming raw micro-CT data into structured geometric benchmarks; standardised the workflow from ground-truth labelling to downstream in-silico modelling across 20+ experimental samples.

B.Sc. (Hons.) in Software Engineering

University of Kelaniya Feb 2016 - Mar 2020 Kelaniya, Sri Lanka

- Specialised in Data Science and Net-centric application development.
- Attained a GPA of 3.96 out of 4.00, obtaining a First Class.
- Dean's List Honouree, recognised in all four academic years of the B.Sc. programme.

Technical Skills

- **Knowledge Areas:** Deep Learning (Computer Vision, Natural Language Processing & Signal Processing)
- **Data types:** Text, Image, Video, Audio, Time series, 3D data, Point cloud, Mesh, Tabular
- **Programming languages:** Python, Java
- **Cloud Platforms:** Azure, AWS
- **Frameworks:** Pytorch, Keras, Flask, Django, Spring Boot
- **Databases & Data handling:** Relational (MSSQL), time series (Azure Data Explorer), stream data (Azure Stream Analytics), Transact-SQL, Kusto Query Language
- **Containerization:** Docker, Kubernetes, Azure Kubernetes Service
- **CI/CD tools:** Git, GitHub, GitHub actions, Azure DevOps Pipelines
- **API Protocols:** REST, gRPC
- **Software Development Methodologies:** Agile

Knowledge Sharing & Technical Outreach

- Member of the teaching team for Code In Place 2021, an online Python course offered by Stanford University, contributing to global tech education initiatives.
- Served as a guest speaker for multiple technical webinars (organized by IEEE and DeepLearning.AI), effectively communicating complex deep learning topics to broader audiences.
- Authored technical articles on Medium covering conceptual topics (CNNs, Kubernetes internals, JVM), practical applications of cloud-native microservices (Kubernetes, Docker, Azure), and automated CI/CD pipelines (GitHub Actions, Azure ARM templates), demonstrating a passion for knowledge sharing.

Achievements

- **1st Place (2022)** and **2nd Place (2024)** in the international SPARC FAIR Codeathon, representing the University of Auckland, organised by the SPARC Data and Resource Centre and the NIH.
- **4th Place** in DataStorm 2020 Datathon, organised by Octave (JKH) and University of Moratuwa.
- **1st Runner-Up** in National Youth Software Competition 2017, organised by UNDP Sri Lanka.
- **Vice President** of Marketing & Communications at AIESEC in the University of Kelaniya in 2018, contributing to local chapter growth.