



A machine learning engineer with 3 years of industrial and 2 years of research experience in machine learning, deep learning, computer vision, cloud technologies, and team management, looking for an opportunity where ML can be applied to solve real-world problems.

Education

M.E.Sc. (ECE) | Engineering

Western University, Canada

- 2022-2024
- Specialization: Software Eng.
- Research Area: Machine Learning
- Grade: 98%

B.Sc.(Hons) | Engineering

University of Moratuwa, Sri Lanka

- 2014-2018
- Specialization: Electronic and Telecommunication
- First Class Academic Standing
- GPA: 4.00 (out of 4.20)

Skills

Prog. Languages

Experienced & Proficient
Python • MATLAB • SQL
Competent
R • C# • C++ • C

ML & Vision Libs.

ML & DL Libraries
PyTorch • TensorFlow
ONNX • Scikit-learn
Vision Libraries
OpenCV • PIL

Cloud tools

ML tools
Azure ML • AWS Sagemaker
Data Warehouse
BigQuery • Snowflake
Data Visualization
Google Data Studio

General

OS
Linux • Windows • Raspbian
VCS/ CI tools
Git • GitHub
IDEs
Jupyter • Pycharm • VisualStudio
Other Software
LaTeX • Solidworks • Unity
Languages
English • Tamil • Sinhala

Experience

ECE Western University | Graduate Teaching Assistant

Sep 2022 - Apr 2024

- SE 2250B - Software Construction
- SE 3309A - Database Management Systems

WSO2 | Machine Learning Engineer

Jan 2021 - Apr 2022

- Part of AI and Research Team.
- Worked on unsupervised multivariate time series anomaly detection for containers deployed in a cloud platform.

Axiata Digital Labs | Data Engineer

Feb 2019 - Jan 2021

- Part of AI and Analytics team.
- Developed deep learning models for recommendation engine, and computer vision applications.
- Worked on data querying, warehousing, and visualization.

Zone 24X7 | Trainee Associate Electronics Engineer (Intern)

Jun 2017 - Dec 2017

- Part of the embedded development team.
- Worked on projects related to embedded software development, hardware design, and kernel debugging.

Projects

Missing Value Imputation for Smart Electric Meters

May 2022 - Apr 2024

- Working on a generative AI model based missing value imputation technique that reduces the imputation error by 20%.
- Technologies - Python, Pytorch, Optuna, Slurm, Shell Script

Performance Anomaly Detection

Jan 2021 - Apr 2022

- Developed unsupervised anomaly detection model to monitor cloud services hosted in Choreo and deployed using Azure ML and integrated with Azure Streaming Analytics for real-time detection.
- Technologies - Python, Pytorch, AzureML, Azure Streaming Analytics

Video Analytics Platform

Jul 2020 - Dec 2020, Jun 2019 - Dec 2019

- Developed and deployed face recognition, person detection models based on CNNs for employee/visitor recognition, and crowd detection.
- Technologies - Python, Pytorch, OpenCV, Flask

Recommendation Engine using Neural Network

Feb 2019 - Jun 2019

- Developed a custom (deep and wide) neural network for mobile plan upsell recommendation that increased take-up by 5%.
- Technologies - Python, Keras, Pandas, SciKit-learn

Certifications

Deep Learning Specialization

deeplearning.ai, Coursera

- A five course specialization covering DL, CNN and sequence models
- Cred. ID - DBLTC9QTTEBL

Fundamentals of RL

University of Alberta, Coursera

- Cred. ID - RWPMHCRFHMEEX

TensorFlow Developer

deeplearning.ai, Coursera

- A four course specialization on Tensorflow
- Cred. ID - CX2HTDNYA32H

Introduction to Deep Learning & NNs with Keras

IBM, Coursera

- Cred. ID - 9L2XKGMX5M8Q

Practical Time Series Analysis

State University of NY, Coursera

- Cred. ID - EH2ZV57Q6QLV

Algorithms on Strings

University of California San Diego, Coursera

- Cred. ID - 5WKJQS3TH9SU

Referees

Dr. Katarina Grolinger

M.Eng., Ph.D.(UWO), P.Eng.

Associate Professor

Canada Research Chair (Tier 2) in Engineering Applications of Machine Learning

Faculty affiliate at Vector Institute for AI

Department of Electrical and

Computer Engineering

Western University

Email : kgroling@uwo.ca

Dr. Ranga Rodrigo

B.Sc.Eng.(Moratuwa)

M.E.Sc., Ph.D.(UWO), SMIEEE

Head of the Department

Department of Electronic and Telecommunication Engineering

University of Moratuwa

Email : ranga@uom.lk



Publications

Published

- Buwaneswaran M., Fonseca T., Narayan A., & Grolinger K., 2023: "Improving Adversarial Robustness of Few-shot Learning with Contrastive Learning and Hypersphere Embedding" </>Repo
International Conference on Machine Learning & Applications 2023
(Oral Presentation)

Under Review

- Buwaneswaran M. & Grolinger K. 2024: "Missing Value Imputation for Smart Meters with Conditional Denoising Diffusion Models"
IEEE Transactions on Industrial Informatics | Journal
- Dunphy K., Buwaneswaran M., Grolinger K., & Sadhu A. 2024: "Investigation of Few-shot Learning for Multiclass Structural Damage Identification"
Canadian Society for Civil Engineering Annual Conference 2024
- Dunphy K., Buwaneswaran M., Grolinger K., & Sadhu A. 2024: "Image Transformation for Improved Few-shot Learning for Multiclass Structural Damage Classification"
Engineering Applications of Artificial Intelligence | Journal

Awards & Achievements

- Recipient of Best Presentation Award in ECE Graduate Symposium (Software Engineering Category) 2023
(Awarded by the ECE department of Western University)
- Recipient of Vector Scholarship in AI 2022-23
(Awarded by Vector Institute to top students pursuing AI Masters in Ontario)
- Recipient of Western Graduate Research Scholarship 2022-24
(Awarded by Western University to graduate students who pursue a Research program)
- 1st place in Datastorm 1.0 data analytics competition 2020
(organized by Rotaract Clubs of University of Moratuwa and University of Colombo, SL)
- Listed in Dean's List in all eight semesters of undergraduate studies 2015-18
- Recipient of Mahapola Merit Scholarship 2015-18
(Awarded by govt. of SL, to the top 10% performers in G.C.E. (A/L))
- Recipient of Dialog Merit Scholarship 2015-18
(Awarded by Dialog Axiata & University Grants Commission, SL, to best performers in each district in G.C.E. (A/L) Phy. Sci. stream)
- Recipient of Ceylinco Pranama Merit Scholarship 2015-17
(Awarded by Ceylinco Life, SL, to candidates with highest z-score in each district in G.C.E. (A/L) across all streams)
- 3rd place in CodeSprint 2.0 inter-university hackathon 2016
(organized by IEEE students branch of IIT., SL)

Leadership Experience

- Assistant Secretary of Tamil Literary Association, University of Moratuwa 2018
- Student Representative of Department of Electronic and Telecommunication Engineering, University of Moratuwa 2017
- Head Prefect at President's Science College (High School) 2012/13

Volunteering Experience

- Conducted HPC cluster familiarization seminar for graduate students working on ML research at Western University 2023
- Technical Writer at towardsdatascience.com 2021-23
- Volunteer teacher - Chemistry and General Information Technology at President's Science College (High school) 2014