# DEVIN Y. DE SILVA

webpage devin.18@cse.mrt.ac.lk +9476685899 Linkedin Profiles

A self-motivated undergraduate enthusiastic about Data Analysis, Data Processing, Machine Learning techniques, and Explainable AI Seeking an opportunity to gain knowledge and hands-on experience.

Research Interests:

Explainable AI | Parameter Efficient Modelling | Cross distributed modelling | Machine Learning

## EDUCATION

**University of Moratuwa, Sri Lanka** **Cumulative GPA: 3.76/4.20**(First Class Hons.) *2018-2023*
B.Sc.Engineering(Hons.)
Computer Science and Engineering
Faculty of Engineering
Dean's List in all Semesters 3,4

## WORK EXPERIENCE

**ML Engineer - IronOne Technologies** June 2023 - Current
*AI Labs*

I worked on the delinquency of credit card payment prediction system with integrated explainability using SHAP for system fairness and critical decision understanding for the client action takers.

Technologies:- AWS SageMaker, Ensemble Modelling, SHAP

**Software Engineer Internship - promiseQ GmbH** December 2021 - August 2022
*AI Team/ Deployment team*

A full-time internship in the AI Team/ Deployment team at PromiseQ. I worked on a Deployment of Models and Motion detection sub-team. I developed and implemented a background image-based motion detection system for the threat detection API and a Shaky Camera Detection System. Further, Automating deployment and testing through MLOps.
Technologies:- Google cloud platform, OpenCV, Docker, GitLab Runners, Flask, Python

## RESEARCH, PUBLICATIONS, SELECTED PROJECTS

**TEZARNet: TEmporal Zero-Shot Activity Recognition Network** Jul 2022 - Jun 2023
*Final Year Project* *ICONIP 2023 publication*

Pathirage N Deelaka, **Devin Y De Silva**, Sandareka Wickramanayake, Dulani Meedeniya, Sanka Rasnayaka

**SEZ-HARN: Self-Explainable Zero-shot Human Activity Recognition Network** Jul 2022 - Jun 2023
*Final Year Project* *Github*

**Devin Y De Silva**, Pathirage N Deelaka, Sandareka Wickramanayake, Dulani Meedeniya, Sanka Rasnayaka

**Geometric Perception based Efficient Text Recognition** July 2022- February 2023
*Research Publication* *Arxiv Link*

An Efficient Model Architecture Regular Scene Text Recognition
Technology:- PyTorch, Python

**Digitgen- Python library for synthetic regular scene text dataset generation** July 2022-Present
*Personal Project* *Repository*

A python library that can be used to create synthetic scene text and digits with various noises. This is intended to create synthetic datasets for regular scene text recognition and currently have 19k downloads.
Technology:- OpenCV, Python, Github CI/CD

**Smart Breadboard for remote lab experiments** October 2020 - Feb 2021
*Self supervised Research and Innovation* *Video and Report-*

· Remote Access Breadboard to assist electronics laboratory work during lockdowns in the Pandemic. **1st place** at IEEE **PES** national design competition, Selected from IEE **CAS** student design competition 2020-2021, to represent Sri Lanka in the IEEE region 10 (Australia-Asia-Pacific).

**Deforestation Tracking System - Fores-track** August 2021 - December 2021
*Academic Project* *Models* *Backend-API*

Developing a deforestation tracking system which uses a semantic segmentation model to identify the changes in vegetation coverage of Sri Lanka using satellite images.
Technologies:- python, Tensorflow, Django, PlanetAPI

**Predicting Pneumonia Using Human Chest X-ray - Classification task** July 2020
*Personal Project* *medium article* *Repository*

This task focuses on predicting the presence of pneumonia and its type (viral pneumonia or bacterial pneumonia) using human chest X-ray scans, using a ResNet architecture model using PyTorch backend.
Technology:- PyTorch, Python , ResNet

**Predicting GI track anomalies Using KVISAR dataset - Classification task** July 2020
*Academic Project* *Repository*

This task focuses on predicting the presence of gastric intestinal track anomalies such as polyps, z-lines and ulcerative colitis. Used the KVASIR dataset and several deep CNN architectures such as InceptionV3, Densenet201 and VGG-19.
Technology:- TensorFlow, Python, Matplotlib

**Search Engine for Sinhala Metaphors and associated dataset** December 2022 - January 2023
*Academic Project* *Repository-* *Dataset*

· Technologies:- ElasticSearch, NLTK, Fast-API

## COMPETITIONS AND HACKATHONS

| | |
|---|---|
| **Top Ten** | IEEE VIPCup'22<br>*Distinguish synthetic AI-generated images from natural ones.* *Code* |
| **Champions** | Data storm 2021- All island open Data science and analytics hackathon<br>*Predict customer status and recommend the most suitable product.* *RCUOM* |
| **Champions** | Datathon 2021- Inter-University Data Science Competition<br>*Predict customer status and recommend the most suitable product.* SLIIT |
| **Runners up** | Datathon 2020- Inter-University Data Science Competition<br>*Forecast Coronavirus case counts and sector impact* *SLIIT* |
| **Runners up** | Datathon 2022- Inter-University Data Science Competition<br>*Skin Disease detection using Images*<br>*Anomaly Detection in Server side Events* *SLIIT* |

## TECHNICAL SKILLS

| | |
|---|---|
| **Languages** | Python, Javascript |
| **Frameworks** | Pytorch, Tensorflow, SHAP, |

**MOOC**

Introduction to Machine Learning in Production *(Coursera)* *July 2023*
Introduction to Deep Learning (With Honors) - HSE University *(Coursera-Advanced Level)* *September 2020*
Deep Learning with Pytorch: Zero to GANs - Jovian.ml *July 2020*
Data Mining with Python- Pirple *June 2020*

## VOLUNTEERING, LEADERSHIP AND EXTRA-CURRICULARS

**Vice Chairperson of ACM students chapter University of Moratuwa** *2021 - 2022*

**International Coordinator - Nalanda College Astronomical Alumni Society** *2019-2020*

- Working on awareness projects and presenting our projects in international platforms. Dumbara Sky, was presented on 9th Communicating Astronomy with the Public Conference (CAP) 2021
  Poster Youtube Presentation
- Presenting our project **TrailBlazer21** in Communicating Astronomy with the Public Conference (CAP) 2022
  Images Participation Invitation

**Batch Representative (Computer Science and Engineering -18 batch)** *semester 4,5,6b*

*References available upon request*