

# SAVINDI WIJENAYAKA

## Software Research Engineer (ML/DL)

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in savindi



## WORK EXPERIENCE

### Machine Learning Engineer

#### WSO2 Lanka (Pvt.) Ltd.

📅 Sept 2020 – Present

📍 Colombo 03, Sri Lanka

- Working on diverse Research and Development tasks in Machine Learning and Deep Learning

### Trainee Software Research Engineer

#### Applied Research & Development, Pearson Lanka (Pvt.) Ltd.

📅 Sept 2018 – Sept 2019

📍 Colombo 09, Sri Lanka

- Carried out diverse Research and Development tasks including Machine Learning and AWS POC development
- Technologies: Spring boot | Django | AWS | Git | Ansible | Trello

### IT Assistant (Volunteer)

#### Anti-Filariasis District Unit

📅 May 2015 – Oct 2015

📍 Kalutara, Sri Lanka

Carried out IT based analysis tasks on samples collected by the Unit.

## EDUCATION

### B.Sc. (Hons.) in Software Engineering

#### University of Kelaniya

📅 2016 - 2020

📍 Kelaniya, Sri Lanka

- Domains: Data Science and Machine learning | Net Centric Application Development
- CGPA - 3.96/4.00 (1st Class)

### CGMA (UK)

#### Chartered Institute of Management Accountants

📅 2014 - Present

Current : Advance Deploma in Management Accounting

### Physical Science (2014 A/L)

#### Visakha Vidyalyaya, Colombo 05

📅 2006 - 2014

📍 Colombo 05, Sri Lanka

- Mathematics C • Chemistry B • Physics B • English A • General IT A

## CERTIFICATIONS

### Deep Learning Specialization

#### Deeplearning.ai/Coursera

📅 August 2020 - Ongoing

Specialization with 5 certifications conducted by Andrew Ng, Kian Katanforoosh and Younes Bensouda Mourri, covering in depth theory concepts in Deep Learning and Machine Learning. Evaluation of the students is done via graded assignments.

1. Neural Networks and Deep Learning (Completed: August 2020)
2. Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization (Completed: August 2020)
3. Structuring Machine Learning Projects (Completed: September 2020)
4. Convolutional Neural Networks (Ongoing)
5. Sequence Models (To be completed)

### DeepLearning.AI TensorFlow Developer Specialization

#### Deeplearning.ai/Coursera

📅 May 2020 - July 2020

Professional Developer Specialization for practical Machine Learning and Deep Learning with 4 certifications conducted by Laurence Moroney. Evaluation of the students is done via graded assignments.

1. Introduction to TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning (Completed: May 2020)
2. Convolutional Neural Networks in TensorFlow (Completed: May 2020)
3. Natural Language Processing in TensorFlow (Completed: June 2020)
4. Sequences, Time Series and Prediction (Completed: July 2020)

## TOP RESEARCH

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### Music Genre Recognition

#### Academic - Individual

📅 September 2019 - February 2020

The current developments for genre classification mostly include deep learning architectures such as Convolutional neural networks (CNN) with Long ShortTerm Memory (LSTM) or Gated Recurrent Unit (GRU). These methods mainly focus on Mel-Spectrum as the input feature. But there other features which can be used to further improve the accuracy of the predictions. The recent developments on transformers have shown their high performance on the Sequential data classification, where they use Attention Mechanism.

This research utilizes a combination of two mechanisms, a CNN and Attention to predict the appropriate Genre of a piece of music represented as multiple features. The CNN is helpful for local feature extraction and the Attention is used to identify temporal patterns in the piece of music. The GTZAN dataset is used to extract domain-related characteristics and create multiple diverse features. These features are then be used to classify the genre by using the mentioned architecture. The final classification on the genre is produced as multi-class probabilities with the use of Softmax activation function. Finally, the performance of the new implementation is compared based on F1 score and accuracy

- Keywords: Music Information Retrieval, Music Genre Recognition, Self-Attention, Multiple features
- Technologies: Python, Fast.ai

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### Automated Public Speaking Evaluation Service (APSES)

#### Under Pearson Lanka - Team

📅 September 2018 – June 2018

This research analyzes a video stream of a student presenting their speech and evaluate the suitability of their gestures and emotions with respect to the context of the speech. It also count the unnecessary words and breaks of the student and provide a comprehensive feedback to the student, so that they can practice and improve themselves before going into their actual examinations on public speaking.

- Keywords: Face Detection, Emotion classification, Speech-to-text, Punctuation
- Technologies: Python, TensorFlow, Flask, Kaldi, OpenCV, Ansible, HTML/CSS, JavaScript, JQuery

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### Document Classifier

#### Under Pearson Lanka - Individual

📅 June 2019 – July 2019

Research based project in the area of Natural Language Processing (NLP). Had experience manipulating State-of-the-art Language Architectures like LSTM, GRU etc. and trying out models like ULMFiT, BERT for achieving the requirement.

- Keywords: Document Classification, Topic Modelling
- Technologies: Python, Pytorch, Django + Django REST framework

## TECHNICAL SKILLS

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- Knowledge Areas : Deep Learning (Vision & NLP)
- Languages & Frameworks : Java SE, Python, JavaScript, Django, Flask, Springboot
- DevOps Capabilities : Linux, AWS, GCP, Kubernetes & Docker, Guicorn, Tomcat, Nginx, Ansible Scripting, JMeter
- Databases & IMDGs : MySql, SqlServer, MongoDB, ScaleOut State Server
- Version Control : Git (BitBucket & Github)

## SOFT SKILLS

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Good Presentation skills

Leadership Skills

Strong team Player

Good Communication Skills

Time Management

Interpersonal Skills

## ACHIEVEMENT

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### Academic

- **4th Place** : DataStorm 2020 Datathon organized by Octave (JKH Centre of Excellence for Big Data Analytics) & University of Moratuwa
- **1st Runner Up** : HackaDev - Matara 2017 (National Youth Software Competition) organized by UNDP-Sri Lanka
- **Semi-Finalist** : UOJ Hack 2017 organized by University of Jaffna and UNDP-Sri Lanka
- **Semi-Finalist** : iHack 3.0 organized by University of Colombo School of Computing
- **2nd Runner Up** : SAIFA Business Challenge 2016 organized by University of Colombo
- **Dean list Enlisted** : 2014/2015 Academic Year, University of Kelaniya

### Non-Academic

- **Champions - Chess** : Four Nations Championship 2019 organized by Pearson Lanka (Pvt.) Ltd.
- **Colours Recipient - Karate** : Year 2016 & 2017, University of Kelaniya
- **2nd Runner Up** : Inter University Games 2017 - Karate, Under 68 kg Kumite Event
- **2nd Runner Up** : Sri Lanka University Games 2016 - Karate, Under 61 kg Kumite Event
- **Colours Recipient - Karate** : Colours Night 2013, Viskha Vidyalaya, Colombo 05
- **Best Player - Karate** : Colours Night 2012, Visakha Vidyalaya, Colombo

## EXTRA CURRICULAR ACTIVITIES

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### Sports & Aesthetic

- Black Belter, Colours & Award Recipient and an active member of Visakha Vidyalaya Karate team  
Year 2007-2014 (National Level)
- Member of Visakha Vidyalaya Kabbadi Team – Year 2011-2013 (National Level)
- Member of Visakha Vidyalaya Carrom Team – Year 2007-2009 (National Level)
- Member of the Visakha Vidyalaya Cadet Contingent – Year 2014 (National Level)
- Other Sports: Wushu, Volleyball, Swimming, Chess, Soccer. (School Level)
- Aesthetic: Drama, Art (School Level)

### Leadership

- Finance Coordinator - RealHack 2.0 organized by Software Engineering Students' Association of University of Kelaniya.
- Karate Captain of University of Kelaniya 2018/2019.
- Appointed as a Senior Prefect of Visakha Vidyalaya 2012/2013.
- Appointed as the Karate Captain of Visakha Vidyalaya 2012/2013.
- Appointed as the Head Girl of Sri Somarathana Dhamma School 2011
- Appointed as a Junior Prefect of Visakha Vidyalaya 2010/2011.

## SOCIETIES & CLUBS

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Vice President

Marketing & Communication

**AIESEC in University of Kelaniya**

📅 February 2018 – February 2019

Local chapter of AIESEC, a youth run global organization who strive for peace and fulfilment of humankind's potential.

Member

**Software Engineering Students' Association**

📅 June 2017 – Present

Student Association of B.Sc. (Hons.) in Software Engineering undergraduates.

## LANGUAGES

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English

Sinhala

Tamil



## REFEREES

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**Dr. (Mr) Lankeshwara Munasinghe**

Senior Lecturer (Grade II),  
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**Dr. (Mrs) Isuru Hewapathirana**

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**Mr. Sudheera Liyanage**

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**Mr. Dinesh Priyankara**

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