
IreshaSD

Iresha Sandamali

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155/2/G, Pamunuvila, Kelaniya


## PERSONAL PROFILE

- **Full Name:** Dissanayaka Mudiyanselage Iresha Sandamali Dissanayaka
- **Name With Initials:** Dissanayaka D.M.I.S
- **Nationality:** Sri Lankan
- **NIC Number:** 946572586V
- **Date of Birth:** 05/06/1994

## LANGUANGES

- English: Professional working proficiency
- Sinhala: Native

## SKILLS

**Machine Learning Skills**

- Data preprocessing and cleaning
- Feature Engineering
- Model selection and evaluation
- Hyperparameter tuning
- Cloud deployment on Microsoft Azure
- No-code app development with MIT app inventor
- Web application development with Streamlit
- API development with FastAPI

# IRESHA SANDAMALI

## (ELECTRICAL AND ELECTRONIC ENGINEER)

## MACHINE LEARNING ENTHUSIAST

## OBJECTIVE

Highly motivated Electrical and Electronic Engineer with a passion for Machine Learning and a strong foundation in mathematics, statistics, and computer science. I am eager to leverage my analytical skills, problem-solving abilities, and engineering background to contribute to developing and implementing innovative machine-learning solutions.

## EDUCATION

- **B.Sc.Eng(Hons) - Electrical and Electronic Engineering**
  2016- 2021 South Eastern University of Sri Lanka (SEUSL)
- **G.C.E Advanced Level(A/L) with B, B and C - Physical Science Stream**
  2011 - 2013 Anuradhapura Central College
- **G.C.E Ordinary Level(O/L) with 9A's**
  2010 Mahasen Maha Viduhala, Rajanganaya

## CERTIFICATIONS

- Python for Data Science and Machines Learning Bootcamp Issued by Udemy (2023)
- Introduction to Cybersecurity - Issued by CISCO Networking Academy (2020)
- Networking Academy Learn-A-Thon 2020 - Issued by CISCO Networking Academy
- Certificate in Completion of Computer Literacy- The Open University of Sri Lanka (2016)

## PROFESSIONAL EXPERIENCES

- Electrical Design Engineer - Husmah Engineering Pvt Ltd (2023 September - 2024 March)
- Temporary Instructor - Department of Electrical and Electronics Engineering in SEUSL (January 2022 - August 2023)
- Trainee Engineer - Ceylon Electricity Board (August 2021 - November 2021)
- Trainee Engineer - Sri Lanka Telecom PLC (March 2019 - May 2019)

## PROFESSIONAL AFFILIATION

- Associate Member (AM-29255) of Institute of Engineers Sri Lanka (IESL)

## RESEARCH AND PROJECTS

**Final Year Project :**

- Developed a Machine Learning Based Micro Expression Detection System capable of recognizing seven universal emotions (2020-2021).
- Applied Support Vector Machine (SVM) for classification and employed techniques like Local Binary Pattern on Three Orthogonal Planes (LBP-TOP) and landmark coordinate differences.
- Achieved accuracies of 65.38% and 52.17% for temporal and static features, respectively.

## Deep Learning Skills

- Neural network architecture design
- Transfer learning
- Convolutional neural networks(CNNs)
- Recurrent neural networks(RNNs)
- Object detection and classification
- Image classification and Segmentation
- Sequence generation
- Model evaluation and optimization

## Technical Skills

***Machine learning and deep learning frameworks and libraries***

- Scikit-learn (regression, classification, clustering, model deployment)
- XGBoost (boosting models)
- TensorFlow (deep learning, neural network building)
- Keras (high-level neural network API, compatible with TensorFlow)
- Pandas (data manipulation and analysis)
- NumPy (numerical computing)
- Matplotlib (data visualization)
- Streamlit (building interactive web applications)
- Microsoft Azure (cloud-based model deployment)
- FastAPI (building APIs)
- MIT App Inventor (building Android applications)
- Google's Gemini-Pro (building conversational AI)

## Soft Skills

- Adaptability and learning agility
- Effective communication
- Problem-solving
- Team Working
- Decision making

## Non Related References

**Mohamed Naasir**
Senior Software Engineer
Content Management & Solutions (Pvt) Ltd.
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**Iresh Madhusanka**
Senior DevOps Engineer
N-able Pvt Ltd.
**Mobile :** +94 775 133 590
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- Implemented a Graphical User Interface for experimentation and visualization of feature extraction. Showcased its potential in criminal interrogations, clinical diagnosis, forensic investigation, and security systems.

## Machine Learning Projects:

- Developed a machine learning model to predict house prices using data from the Boston housing dataset (Scikit-learn, Python).
- Built a linear regression model to predict medical insurance costs using Python (Scikit-learn).
- Developed an XGBoost regression model to predict sales for Big Mart using Python (Scikit-learn).
- Built a fake news classification system using a logistic regression model in Python (Scikit-learn).
- Implemented a machine learning model to predict loan status using Python (Scikit-learn).
- Developed a credit card fraud detection system using a logistic regression model in Python (Scikit-learn).

## Deep Learning Projects :

- Leveraged transfer learning with a pre-trained MobileNet V2 model (TensorFlow/Keras) to build a dog vs. cat classification system in Python.
- Developed a face mask detection system using a convolutional neural network (CNN) for improved public health monitoring (Python).
- Implemented and compared logistic regression models using NumPy (78% accuracy) and TensorFlow (90% accuracy) for gender classification on colour images (TensorFlow, NumPy, OpenCV).
- Developed a multi-class image classification model using TensorFlow and achieved an accuracy of 97% on the MNIST handwritten digit dataset (TensorFlow, NumPy, Matplotlib).
- Implemented a bounding box regression model using a pre-trained VGG16 network on a custom aeroplane image dataset for object localization (TensorFlow, OpenCV, Pandas).

## Machine Learning Model Deployment

- Built a machine learning web app that utilizes machine learning models to predict various diseases (such as diabetes, heart disease, breast cancer and Parkinson's) from historical data using Streamlit on Heroku. (https://multiple-disease-webapp-heroku-c02cb22e4d27.herokuapp.com/)
- Developed a user-interactive chatbot web app (Streamlit) powered by Google's Gemini-Pro large language model (LLM). (https://gemini-chatbot-generative-ai.streamlit.app/)
- I built a no-code Android application (MIT App Inventor) for diabetes prediction using a machine-learning model.
- Developed a real-time fashion item classifier web application using a deep-learning CNN model built with Keras and TensorFlow.
- Built a web application (Streamlit) with a deep-learning CNN model for plant disease classification. Additionally, deployed the model as a web service on Azure Machine Learning for wider accessibility.
- Developed and deployed a machine learning model for diabetes prediction on Microsoft Azure, enabling real-time predictions through a web service.