

# GAYAANI PARAMESWARAN

+94 76 652 0983  
GayaaniD

@ gayani.parameswaran@gmail.com

Katubedda, Moratuwa.

Gayaani



## PERSONAL STATEMENT

A dedicated, enthusiastic undergraduate who is committed to continuous learning and professional growth. Currently looking for a technically challenging career with an established engineering firm to achieve professional and personal fulfillment and career progression.

## EXPERIENCE

### Trainee Electrical Engineer

February 2022 – August 2022 Colombo

- Resource Management Associates (Pvt) Ltd.
- Ceylon Electricity Board

### Trainee Machine Learning Engineer

Smartzi Lanka (Pvt) Ltd.

September 2023 – Present Nallur, Jaffna

- Tools:** Python | Genetic Algorithm | linear regression
- Route Optimization
  - Proficient in using genetic algorithms to determine optimal routes for servicing customer locations, minimizing travel distances for cost savings and improved service quality.
  - Developed path filtering methods to streamline routes by evaluating relative source-destination positions and strategically removing unnecessary locations based on trip direction (upward or downward).
- Automated Driver Performance Analysis and High-Performing Driver Identification
  - Developed a robust system utilizing trip data (acceptance, rejections, cancellations, ride-back offers, completions, and experience) to evaluate driver performance and identify the high-performing drivers based on the performance metrics.

## PROJECTS

### Fine-tune GPT3.5 Turbo with bank customer service data : LLM Project

November 2023

- Tools:** GPT-3.5-Turbo | Hugging Face
- Acquired and prepared a comprehensive banking fine-tuning dataset from Hugging Face, meticulously converting it into a conversational chat format optimized for fine-tuning GPT-3.5-Turbo.
- partitioned the dataset into distinct segments for training and validation
- Executed the fine-tuning process leveraging the train ,validation datasets and evaluated the fine-tuned model's efficacy by testing it against novel test data

### SQL-Driven Q&A System for T-Shirt Sales using Few-Shot Learning : LLM Project

November 2023

## AREA OF INTEREST

Machine Learning

## EDUCATION

### BSc. Engineering (Hons) in Electrical Engineering

University of Moratuwa

2018 – Present CGPA : 3.5690

- Dean's List in semesters 3 4 and 7

### G.C.E Advanced Level

Jaffna Vembadi Girls' High School

2017 2AB - Physical Science

- Z-Score: 1.9792

## TECHNICAL SKILLS

- Machine Learning**
  - Scikit-learn
  - Pandas
  - Numpy
- Deep Learning**
  - Tensorflow
  - Tensorflow serving
  - Transfer learning
  - CNN
  - Activation functions
- Programming Languages**
  - Python
  - JavaScript
- Object Oriented Programming**
  - Python
- Web Development**
  - HTML | CSS | JavaScript
  - Streamlit
  - FastAPI
- Tools**
  - Visual Studio Code
  - PyCharm
  - MATLAB & Simulink
  - Anaconda

## CERTIFICATIONS

- **Tools:** Google Palm LLM model | Hugging Face | Langchain | Streamlit
- Prepared training dataset which have human questions and corresponding SQL queries
- Applied embedding for dataset using huggingface and store it in vector database (ChromaDB)
- Paired the vector database with LLM and used few shot prompt template to create SQL database chain
- Built UI in streamlit

## Building a Q&A system for an e-learning company : LLM Project

📅 October 2023

- **Tools:** FAISS Vector database | Huggingface Embedding | LangChain | LLM Google Palm | Streamlit
- Use a real CSV file of Question and answer for a specific company
- Use CSV loader to load csv files
- Create embedding for the questions and responses and store it in vector database
- Using langchain pull the similar looking embedding vectors and form a prompt
- Create user interactive interface using Streamlit

## Photato disease classification using CNN

📅 October 2023

- **Tools:** Tensorflow | CNN | Data augmentation | Tensorflow serving | FastAPI | React JS | Google Cloud Platform (GCP)
- Built CNN model for image classification
- Implemented a FastAPI backend coupled with Tensorflow Serving for efficient model deployment and inference.
- Constructed a user-friendly web application using React JS
- Integrated the photato disease image dataset, conducting testing to verify model accuracy and functionality and deploy model on GCP.

## Developed a comprehensive real estate price prediction website

📅 September 2023

- **Tools:** Scikit-learn | Python flask | HTML | CSS | Javascript
- Build a model using sklearn and linear regression using banglore home prices dataset from kaggle.com.
- Constructed a Python Flask server to deploy the saved machine learning model
- Build website in html, css and javascript that allows user to enter home square ft area, bedrooms etc and it will call python flask server to retrieve the predicted price.

## Coordination of PV Smart Inverters for Grid Voltage Regulation using Deep Reinforcement Learning

### Final Year Project

📅 October 2022 – June 2023

- **Tools:** OpenDSS | Python | TensorFlow | DDPG Algorithm | CNN | Matplotlib | Microsoft Office
- Designed IEEE37 bus system in OpenDSS & connected four Smart Inverters with bus system
- Implemented DDPG algorithm to make coordination between each SIs and maintained the voltage regulation with a limited range.

- Generative AI with Large Language Models | Coursera - Following
- Machine Learning | Coursera, Pantech Solutions - Completed
- Introduction to Deep Learning & Neural Networks with Keras | Coursera | IBM - Completed
- Python Programming | Pantech Solutions - Completed
- Programming with JavaScript | Coursera | Meta - Completed
- Supervised, Unsupervised Learning, Reinforcement Learning | Coursera - Completed

## ACHIEVEMENTS

- Winners - PMU Design Workshop Competition, organized by Y2NPro of IEEE Young Professionals in Sri Lanka
- Participant - MoraXtreme 2020 (Programming Competition)
- Participant - IEEE Xtreme 2020, 2021 (Programming Competition)

## PERSONAL SKILLS

- Communication and Collaboration Skills
- Report Writing
- Problem Solving
- Time Management
- Agility

## EXTRACURRICULUM

- "Gammadata IEEE api" - IEEE Pes Student Branch Chapter, University of Moratuwa
- IEEE - Student Member | Jan 2022 - Present
- IEEE Computer Society - Student Member | Jan 2022 - Present
- IESL - Student Member | Jan 2021 - Present
- Gavel Club | University of Moratuwa - Member | Jan 2020 - Present
- Tamil Literary Association | University of Moratuwa - Member & E-Fac Coordinator | Jan 2018 - Present

## REFEREES

**Dr. V. Logeeshan**  
Senior Lecturer

📍 University of Moratuwa, Department of Electrical Engineering

✉ logeeshanv@uom.lk

+94112650301

**Dr. Tilak Siyambalapitiya**  
Managing Director

📍 Resource Management Associates (Pvt) Ltd

✉ tilak@rmaenergy.lk

+94777412269