# PRAGATEESHWARAN

#### CONTACT

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🛇 Sivakasi, Tamil Nadu, India

### EDUCATION

Bachelor of Technology Artificial Intelligence and Data Science

MEPCO SCHLENK ENGINEERING COLLEGE, SIVAKASI

2022 - 2026

Higher Secondary Education K.KAMARAJAR MATRICULATION HIGHER SECONDARY SCHOOL, Sivakasi

2022

#### SKILLS

## **Programming Languages**

- Python
- C/C++
- CUDA

## **LLM Framework**

Langchain

# **Deep Learning Frameworks**

- PyTorch
- TensorFlow
- OpenCV
- Hugging-Face

#### **DataBase**

- MySQL
- MongoDB
- Cassandra
- Neo4i

## Containerization

Docker

#### Cloud

Microsoft Azure

## ABOUT ME

I am a passionate deep learning researcher dedicated to developing cutting-edge large language models (LLMs) and advancing AI architectures. My expertise lies in autonomous research, designing innovative machine learning methodologies, and optimizing model performance. With a strong mathematical foundation, I focus on creating efficient, scalable AI solutions while emphasizing research-driven innovation.

#### **PROJECT**

## **ViT-For-Image-Classification**

A ViT-based image classifier, processing images as patches, trained on large datasets, and optimized performance against CNN models.

Repo link: link

### **LoRA-From Scratch**

This project implemented a Low-Rank Adaptation (LoRA) technique from scratch for fine-tuning a neural network on the MNIST dataset. It covers the model setup, adaptation process, and a comprehensive training pipeline, including optimization, loss functions, and evaluation metrics for efficient model fine-tuning.

Repo link: link

## **LLaMa-3 From Scratch**

This project, implements a LLaMa 3 model from scratch, covering dataset creation, model architecture, and training pipeline. It is entirely written in Python and aims to provide a comprehensive guide for building the LLaMa 3 model.

Repo link: link

## **GPT-2 From-Scratch**

This Project uses PyTorch to build and train a OpenAl's GPT-like language model for text generation. It includes data preprocessing, defining model architecture with multi-head attention and feedforward layers, training with backpropagation, and text generation using the trained model.

Repo link: link

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### **PROJECT**

## Vanilla Decoder

This Project is the implementation of a Vanilla Transformer Decoder Block built using PyTorch.

Repo link: link

## QueryGen

QueryGen was a Streamlit application that allowed you to generate SQL queries based on natural language prompts and CSV file inputs. It used LangChain's SQL query generation capabilities and the ChatGroq language model to interpret user prompts and generate optimized SQL queries tailored to the uploaded CSV data

Repo link: link

## **Deep Face Detection**

This project implemented a deep learning model using TensorFlow for face detection. It involved data preprocessing, augmentation, and training a VGG16-based model. The model was trained to classify and localize faces in images, with real-time predictions visualized through OpenCV

Repo link: link

## **Comment Analyzer**

It built a neural network, trained it on labeled comments, and included a Tkinter GUI for predicting toxicity of input sentences. The model was saved and loaded using the HDF5 format, though a native Keras format was recommended.

Repo link: link

## CERTIFICATES

NPTEL - Responsible & Safe AI Systems

Jul-Oct 2024

Link

**NPTEL - Programming With Java** 

Jan-Apr 2024

Link

**NPTEL - The Joy Of Computing Using Python** 

Jul-Oct 2023

Link

UDEMY - Python for data science and Machine learning bootcamp

Oct-2023

Link

EXPLORE IT CORP - Python in artificial intelligence,

Machine learning and data science

Sept - 2022

Link

LANGUAGES

Tamil

English