

Vighneshwar Reddy Katipally

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Portfolio website: <https://main--celadon-palmier-0ee032.netlify.app/>

Career Objective:

I am a masters graduate in data science looking for an opportunity to contribute in AI/ML domain as a Data Scientist, Data analyst or Machine Learning engineer by developing cutting-edge products.

Professional Summary:

➤ Data Science Intern : 4 months

Technical Skills:

Programming languages	Python, SQL, C, Java
Technologies	Machine Learning, Deep Learning, Natural Language processing, Computer vision, Reinforcement learning, Generative AI, Large Language Models, MLOps, Data Analytics
Tools	Matlab/Simulink, Kubernetes, Jenkins, Docker, Grafana, Kibana, Key cloak, Microsoft Power BI, Excel, Huggingface, Streamlit, Arduino tools
Python Libraries	Numpy, Pandas, Matplotlib, Scipy, SciKit-Learn, NLTK, Pytorch, Tensorflow, Keras, Opencv, Kivy
Version Control	Git/Gerrit/DVC
Project management method	Agile (Jira)
Unit testing	Pytest
Front end	HTML/CSS/JS, React
Backend	Flask, Django, Rest API development
Cloud	AWS Sagemaker

Professional Experience

1. Innomatics Research Labs

- **Location** : Hyderabad
- **Role** : Data science intern – full time
- **Duration** : 4 months (Jan 2021 – Apr 2021)
- **Tools** : streamlit, colab, pandas, sklearn, matplotlib, data visualization

- **Project** : Bulding end to end ML models

Projects:

1. **Project** : Multi Modal Large Language Model (MMLLM) pre-training and fine tuning
Languages/ Tools : Python, Google Colab for training, Huggingface for deployment, Gradio
Hugging face link : <https://huggingface.co/spaces/vigraj/MultiMODEL-LLM>

Project Summary:

- Goal** : Building a Multi-Modal Large Language Model for Text generation
- Inputs** : text, images, and audio
- Output** : generate textual data
- Dataset** : COCO-2017 dataset for images, Instruct 150 K dataset
- Models** : Foundation model (Microsoft Phi-2 LLM), Clip Model, Whisper model
- Fine tuning** : Qlora

Project Description:

- This project involves a three-stage process to create a Multi-Modal Large Language Model.
- **Stage 0: Pretraining**
 - Foundation Model: Microsoft Phi-2 LLM (Text input and Text output)
 - Clip model as Image encoder for getting embeddings from input images (COCO-2017 dataset). Then we trained the projection layer and projection model to convert above embeddings to be compatible with the Microsoft Phi-2 model.
- **Stage 1: Finetuning**
 - Performed fine-tuning on projection layer, projection model and Phi-2 model using Instruct 150 K dataset, enabling the model to understand conversations from images.
 - Adopted the Qlora fine-tuning strategy, we optimize the phi-2 model for multi-modal tasks, enhancing its ability to process text, images and audio.
- **Stage 2: Deployment**
 - Utilized whisper model for audio data
 - Deployed in Hugging face

2. **Project** : Microsoft Phi-2 Based AI Assistant using Qlora strategy
Languages/Tools : Python, Google Colab for training, Huggingface for deployment, Gradio
Huggingface link: <https://huggingface.co/spaces/vigraj/ChatbotwithQlora>

Project Summary:

- Goal** : AI Assistant / Chatbot
- Inputs** : text
- Output** : generate textual data
- Dataset** : Open Assistant dataset
- Models** : Foundation model (Microsoft Phi-2 LLM)

Fine tuning : Qlora

- 3. Project** : Handwritten Character Recognition using Deep Learning
Languages/Tools : Python, Tensorflow, Keras

Project Summary:

Goal : Recognizing the hand-written characters
Inputs : hand-written text
Output : generated text
Dataset : IAM Dataset
Models : CNN's, Bi-LSTM

Technical Publications

Publication Name : 2023 3rd International Conference on Intelligent Technologies (CONIT)

Title : Sentiment Analysis at Document Level of Telugu data from Multi-Domains

Publication Link: <https://ieeexplore.ieee.org/document/10205691>

Academics

Degree	Specialization	College	Duration	Percentage/C GPA
Master of Technology	Data Science	Center of Excellence in Networking (CEN), Amrita Vishwa Vidyapeetham, Coimbatore, Tamil Nadu, India. 641112	2021-2023	7.0/10
PG Diploma	Artificial Intelligence and ML	E & ICT Academy NIT Warangal	2020-2021	3.43/4.0
Bachelor of Technology	Computer Science Engineering	Vardhaman College of Engineering, Shamshabad, Hyderabad, Telangana, India.	2016-2020	7.1/10

Intermediate	MPC	Sri gayatri junior college, Hyderabad, Telangana, India.	2014-2016	74%
High School	NA	Gautham High School, Hyderabad, Telangana, India	2014	8.2/10

Continuous Learning / Certifications

1. iNeuron – Full Stack Data Science Program (1 Year)
2. NPTEL - CERTIFICATION ON MACHINE LEARNING (2 months)
3. Data camp - Python Developer (2 months)
4. The school of AI – Extensive & Reimagined AI (ERA-V1) Program 2023 (9 months)

Personal Details:

Full Name : Katipally Vighneshwar Reddy
 Date of birth : 30/08/1999
 Gender : Male
 Blood group : O +
 Languages Known : English, Telugu, Hindi