**Mukesh Kumar**

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**OBJECTIVE**

Detail-oriented and aspiring Data Scientist with a BTech in Computer Science and certification in FullStack Data Science with Generative AI . Experienced in building end-to-end machine learning solutions spanning NLP, computer vision, and recommendation systems. Skilled in deploying models through interactive web applications, eager to contribute data-driven insights and AI innovation.

**EDUCATION**

**Bachelor of Technology (BTech), Computer Science**

[Your University], [City, Year of Graduation]

**Certification**:

* FullStack Data Science with Generative AI — [Issuing Platform/Institution]
* Second certification

**TECHNICAL SKILLS**

**Programming** : Python, TensorFlow, Keras, OpenCV, Docker

**Machine Learning** : Deep Learning, CNNs, Transfer Learning, Transformers, NLP

**Libraries/Frameworks** : Hugging Face Transformers, scikit-learn, NLTK, MediaPipe, AutoPy

**Data Handling**  : Pandas, NumPy

**Tools** : Streamlit, Gradio, Jupyter Notebook, TMDb API, Pickle

**Deployment** : Docker, Web UI development

**CAPSTONE PROJECT**

**Language Translator (English to Hindi):**

* Developed a Seq2Seq LSTM model from scratch in TensorFlow for English-Hindi translation.
* Handled comprehensive data processing including tokenization, padding, and parallel corpus preparation.
* Built encoder-decoder architecture, trained the model end-to-end, and optimized translation accuracy.
* Deployed a Streamlit web app demonstrating real-time translation, highlighting production readiness.
* Utilized Python libraries such as NumPy, Pandas, and Pickle for efficient data and model management.

**Tools**: Python, TensorFlow 2.x, Streamlit, NumPy, Pandas, Pickle, Jupyter Notebook

**PROJECTS**

**Content-Based Movie Recommendation System:**

* Created a recommender system using TMDb dataset by combining metadata and computing cosine similarity to recommend movies.
* Integrated TMDb API for fetching movie posters and developed an interactive Streamlit UI.

**Tools**: Python, Pandas, scikit-learn, NLTK, Streamlit, TMDb API

**Cat vs. Dog Image Classifier (Custom CNN):**

* Built binary classifier from scratch with data augmentation and dropout, containerized using Docker.

**Tools**: TensorFlow, Keras, OpenCV, Docker, scikit-learn

**Cat vs. Dog Classification (Transfer Learning):**

* Applied VGG16, ResNet50, and MobileNetV2 pre-trained CNNs for classification with fine-tuning and feature extraction.
* Evaluated with accuracy, confusion matrix, and F1 score metrics.

**Tools**: TensorFlow, Keras, scikit-learn, Matplotlib, Docker

**Gesture-Controlled Virtual Mouse:**

* Developed real-time hand gesture-based virtual mouse using OpenCV and MediaPipe, enhancing hands-free interaction.

**Tools**: Python, OpenCV, MediaPipe, AutoPy

**GENERATIVE AI PROJECTS**

* **CLI and UI Chatbot:** Created conversational agents using DialoGPT, Flan-T5, and GODEL models, deployed with Gradio UI.
* **Text Summarizer Tool:** Built a text summarization app using facebook/bart-large-cnn model with Streamlit interface.
* **Image Classification with Vision Transformers**: Developed transformer-based image classifiers with interactive Gradio UI.
* **Image Captioning System**: Generated image captions using Salesforce blip-image-captioning-base model and Gradio UI.
* **Object Detection System**: Implemented object detection leveraging Facebook detr-resnet-50 with Gradio visualization.
* **Visual Question Answering (VQA) System**: Built VQA app with Salesforce blip-vqa-base model and real-time Gradio interface.

**Tools**: Python, Hugging Face Transformers, Gradio, Streamlit

**ADDITIONAL INFORMATION**

* Strong foundation in NLP, computer vision, deep learning, and model deployment.
* Effective communicator with experience in building interactive web apps for AI demos.
* Enthusiastic about continuous learning and applying AI to solve practical problems.