Aryan Pathak

AI/ML Developer with hands-on experience in computer vision, NLP, and deep learning. Built end-to-end AI systems using TensorFlow, PyTorch, and Flask for healthcare, agriculture, and automation use cases.

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Detailed Resume Link : LINK

INTERNSHIP

InternsElite, Remote — *Python Development Team*

DECEMBER 2023 - FEBRUARY 2024

- Developed computer vision modules for CCTV-based home security using OpenCV and Python
- Assisted in model training, testing, and real-time video processing
- Collaborated with remote team using Git/GitHub
- Improved detection accuracy by optimizing the kernel's working, this increased the accuracy by ~ 6% .

Skills : Computer Vision Intern, Python Developer Intern.

EDUCATION

Babu Banarasi Das University (BBD) , Lucknow — *B.Tech. with specialization in Artificial Intelligence*

AUGUST 2022- PRESENT

Pursuing core subjects in Artificial Intelligence, Machine Learning, Data Structures, Algorithms, and Deep Learning.

S.K.D. ACADEMY , Lucknow— *12th*

PASSED - 2021

Gained foundational knowledge in logic, problem-solving, and quantitative reasoning.

S.K.D. ACADEMY , Lucknow— *10th*

PASSED- 2019

Developed analytical thinking and problem-solving skills through core subjects.

SKILLS

Languages :: Java , C , Python, JavaScript

ML Libraries :: TensorFlow , PyTorch , Keras , OpenCV , Scikit-learn , NLTK , XGBoost

Data Analysis & Visualization modules :: Matplotlib, Seaborn, Plotly

FrameWork :: NodeJS, Express, React, Tailwind, Flask

Deep Learning :: Convolutional Neural Networks(CNN) , Recurrent Neural Networks(RNN) , Long - Short Term memory(LSTM)

NLP :: Text Summarization , Natural Language Processing (NLP) , Named Entity Recognition (NER) , Text Classification , Hugging Face Transformers

Agentic AI Systems :: LangChain , LangGraph , LangSmith , Vector databases , RAG Pipeline modeling

PROJECTS

Medical Text Summarization — *IIIT Delhi HACATHON*
Hybrid Transformer-BiLSTM model for medical Q&A summarization using 8-head attention and knowledge graphs. Built REST APIs with Flask; generated dual summaries for clinicians & patients.
Since for testing we were using free hosting, the number of concurrent users were restricted, while the output time of the model was ~ 5 - 15 sec with 88.56% accuracy.
Technologies: Python, Flask, HTML, JavaScript, NLP, AI

AI-Based Mental Health Screening — *RML HACKATHON*
Developed AI tool combining OpenCV and NLP to assess mental health signals via emotion + sentiment analysis, then used an ensambled models of Transformers and LSTM which was trained on a kaggle dataset, this model worked as the brain and gave us the output based on the input and trained data . Featured in national media.
Technologies*:* Python, Flask, OpenCV, NLTK, Machine Learning

AI Complaint Management System — *IBM National HACATHON*
Chatbot-based system for complaint logging and auto-ticketing with NLP prioritization. Integrated analytics dashboard with automation, we made a RAG pipeline for our project to reduce the latency and improve the working of the chatbot. Later we integrated our chatbot with LLM api's with in app chat memory saving and chat retention.

Technologies: Python, Flask, TensorFlow, Rasa, Scikit-learn

Crop Disease Detection — *UNIVERSITY HACATHON*
ML model classifying 10+ diseases in 5 crops with 83.57% accuracy. Integrated with React frontend via Flask.
I used the YOLO model to work as the brain of my project. Before using YOLO I tried using CNN but the accuracy didn't go above 70%, later after changing the model the issue was found that the kernel's convolution layer created non-contextual images resulting in poor training of the model.
Technologies: Flask, React, ML, Data Analysis

Currently Learning :: Generative Adversarial Networks (GAN)

LANGUAGES

Hindi , English