Prince Kumar

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TECHNICAL SKILLS

Languages: Java, Python, C++, C, HTML, CSS, JavaScript
Frameworks: Django, Flask, FastAPI
Databases: MySQL, SQLite, PostgreSQL
Python Libraries: Transformers, PyTesseract, PaddleOCR, OpenCV, TensorFlow, PyTorch, Scikit-learn,
Tools: Git, Docker, Railway, AWS
BI Tools: Power BI, Tableau

EXPERIENCE

AI/ML and Backend Engineering Intern   Jan 2025 – March 2025
Fix-it.ai   *Gurugram, India*

- Created optimized API endpoints that can handle upto 5000 concurent request from the user side.

- Developed the chatbot which enables user to ask questions based on the provided call transcript.

AI Engineer Intern   March 2025 – Present
Vocab.ai   *Dharwad, India*

- Worked on building a speech based conversation agent which can handle conversation in indian languages especially hindi, english, kannada, telgu.

- Used AI4Bharat IndicConformer ASR, and Parler TTS to have human like natural speech.

PROJECTS

Financial fraud and frogery detection system | *Django, docker, RAG, RestAPI, AWS, Deep-learning*

- Trained a Deep neural network model that can predict the category of fraud, given a financial transaction related to life insurance.

- Also built a CNN based image processing model that can extract the signature from a document and then matches it with the existing signatures in the DB, and produces a similarity score. If the score is above 55 percent it is classified as matched otherwise not matched.

- After all that built a Django backend application that can handle the request to serve requests for the above services

- Created a comprehensive repository documenting the approach and results, available on **GitHub**.

AI-Research Agent System | *Gemini, Google custom search, Huggingface, Kaggle, Github Django, restAPI*

- Designed and implemented an advanced AI-Agent system to generate tailored AI/GenAI use cases by conducting in-depth industry analysis, market research,as well as the helpful resources from different platforms.

- The agent analyzes market trends, collects datasets from platforms like Kaggle, Github, arXiv and Huggingface, and provides actionable insights to optimize operations and enhance customer experiences.

- Maintained a well-documented repository detailing the system's approach and results, accessible on **GitHub**.

Saarthi - multilingual AI assistant | *Gemini-flash-2.0, AI4Bharat IndicTrans model, Flask, RestAPI, Git, docker*

- Built an AI based multilingual chat application specially for Indian languages, eg. Hindi, Kannda, Bengali, Tamil, Marathi

- User can input the query in any indian language, the system automatically detect the langauge, then the indicTrans model will transalte it into English and generate the repsonse, then the response is translated back into original langauge as the final response.

- Maintained a thoroughly documented repository outlining the system's methodology and results, available at **GitHub**.

Sentiment Analysis of Call Transcripts | *Flask, Transformer, PyTorch, Huggingface*
- Developed a web-based application for sentiment analysis of call transcripts, enabling users to upload text files via a Streamlit-based UI. The backend, powered by Flask, processes files and returns sentiment results.
- Integrated the **cardiffnlp/twitter-roberta-base-sentiment-latest** model to analyze conversational sentiment between two individuals, enabling emotion detection and contextual sentiment understanding.
- Created a comprehensive repository documenting the methodology, findings, and results, accessible on **GitHub**.

Conversational Image Recognition Chatbot | *Llama-3.2-11B-Vision Model, Huggingface Transformers, Django*
- Developed an interactive chatbot enabling users to upload images and engage in meaningful, context-aware text-based conversations about the image content and related queries.
- Integrated Meta's advanced **Llama-3.2-11B-Vision Model** from Hugging Face Transformers for enhanced image comprehension, dialogue generation, and contextual reasoning.
- Documented the project in a detailed and organized repository, available at **GitHub**.

Project management system | *Django, Python, PostgreSQL, Tailwind, HTML, JavaScript*
- Designed and developed a project management system for companies and organizations to efficiently track and manage ongoing projects.
- Utilized the **Django web framework** for server-side development and **Tailwind CSS** for modern, responsive user interface.
- The project is currently in progress, with detailed updates available on **GitHub**.

EDUCATION

Indian Institute of Information Technology Dharwad   Dharwad, Karnataka
Bachelor of Technology in Data Science and Artificial Intelligence   *Nov 2022 – Present*
- CGPA : **8.22/10.0**
- Relevant Coursework: Probability and Statistics, Data Structure and Algorithms, Data and Business Analytics, Object Oriented Programming, Database Management Systems, Operating Systems, Discrete Mathematics, Linear Algebra, Graphs and Social Networks, Computer Networks, Machine Learning, LLM, data security and privacy, cloud computing

ACHIEVEMENTS

- **SBI Life hack-AI-thon**

  - Reached the semi-final round by building and demonstrating a prototype.

  - Competed with 1700+ teams across India and got selected in the top 10 teams.

  - The results of the final round are yet to be announced.

- **Amazon ML Challenge**

  - Built an ML model that can analyze a product image and extract features such as dimensions, weight, volume, and voltage.

  - Ranked 72nd in the first attempt with an F1 score of 0.55.

  - Competed with around 1000+ teams across India and concluded with a final rank of 138.

CERTIFICATIONS

Supervised ML: Regression and Classification - DeepLearning.AI
Issued Feb 2024

Advanced Learning Algorithms - DeepLearning.AI
Issued April 2024

Unsupervised Learning, Recommenders, Reinforcement Learning - DeepLearning.AI
Issued July 2024