AI Career Recommender Project

Project Overview

The AI Career Recommender is a smart web-based application designed to help users identify suitable career paths based on their interests and skills. It utilizes Natural Language Processing (NLP) and Machine Learning (ML) to analyze free-text user input and classify it into career categories such as Software Developer, Graphic Designer, Doctor, etc.

The goal of the project is to provide career suggestions in a conversational and user-friendly manner, enabling students and professionals to make informed decisions about their future paths.

Abstract

In today's fast-evolving job landscape, choosing the right career can be overwhelming. This project addresses that challenge by allowing users to input their interests in plain language. Using a trained ML model and text preprocessing techniques, the system analyzes the input and suggests the most relevant career option. The solution is lightweight, user-friendly, and deployable via Streamlit.

Tools Used

- Python
- Streamlit
- NLTK (Natural Language Toolkit)
- Scikit-learn
- Joblib
- TF-IDF Vectorizer

Steps Involved in Building the Project

1. Collected and cleaned a dataset of user interests and career labels.
2. Preprocessed text using NLTK – tokenization, lemmatization, and stopword removal.
3. Transformed data using TF-IDF vectorization.
4. Trained a Logistic Regression model on the processed data.

5. Built a frontend using Streamlit to accept user input and display career predictions.
6. Integrated example buttons to guide user queries.
7. Tested and deployed the app using Streamlit Cloud and local execution.

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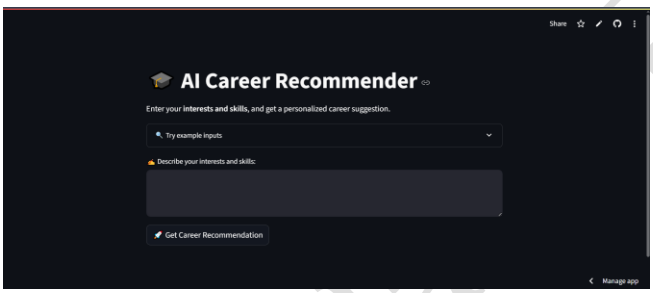
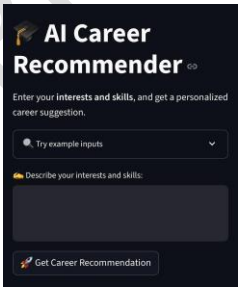
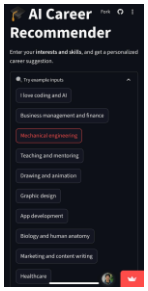
Outcomes

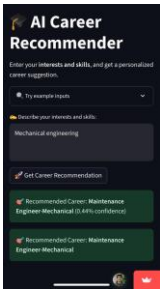
App Link: https://ai-career-recommender.streamlit.app/

GitHub Repo: https://github.com/chandan-911/AI-Career-Recommender









Conclusion

The AI Career Recommender project showcases how NLP and ML can support career guidance efficiently. It provides a helpful platform for students and professionals to discover career opportunities that match their skills and passions. The project can be enhanced in the future by integrating LLMs for deeper recommendations and adding support for resume parsing or voice input.