Title: Resume Screening with Python

Description:

Resume Screening with Python is a project that automates the initial screening process of resumes using natural language processing (NLP) techniques and machine learning algorithms. The project aims to streamline the tedious task of manually reviewing resumes by classifying them into different categories based on their content.

The project begins by allowing users to upload a dataset containing resumes using Google Colab's file upload feature. Upon uploading the dataset, the code loads the data into a Pandas DataFrame and explores the distinct categories of resumes along with their counts.

Next, the code preprocesses the resume text by removing URLs, mentions, hashtags, special characters, and extra whitespace. This ensures that the text data is clean and ready for analysis.

Word frequency analysis is performed to identify the most common words in the resumes. Word clouds are generated to visualize these key terms, providing insights into the topics and themes present in the resumes.

The cleaned resume text is then transformed into numerical features using TF-IDF vectorization. A KNeighbors Classifier model is trained on these features to classify the resumes into different categories. The model's performance is evaluated on a test set, and a classification report is generated, which includes metrics such as precision, recall, and F1-score for each category.

Resume Screening with Python can be used by HR departments, recruitment agencies, or hiring managers to automate the initial screening of resumes received for job applications. By automating this process, recruiters can save time and effort, allowing them to focus on reviewing relevant candidates and making informed hiring decisions.

This project showcases proficiency in Python programming, data preprocessing, NLP techniques, machine learning model training, and model evaluation. It demonstrates the ability to leverage Python libraries such as Pandas, NLTK, scikit-learn, and matplotlib for data analysis and machine learning tasks.