RECRUIT NXT

Assignment: Resume Summarization using Python

Introduction

As a Python developer, you'll often come across resumes of job applicants that you need to evaluate for job selection. Reading through each resume can be time-consuming, which is where resume summarization comes in handy. In this assignment, you'll build a resume summarization tool using Python that can help you quickly assess a candidate's skills and experience.

Requirements

You'll need to build a Python program that can take in a resume in either PDF or text format and produce a summary of the candidate's skills, experience, and education. Your program should:

1. Identify the candidate's name, email address, and phone number from the resume.
2. Use NLP techniques to identify the candidate's skills, such as programming languages, software tools, and other relevant skills.
3. Identify the candidate's work experience, including their previous job titles, companies, and job responsibilities.
4. Identify the candidate's education, including their degree(s), major(s), and graduation year(s).
5. Summarize the candidate's skills, experience, and education in a clear and concise manner.
6. Output the summary to a text file.

Tips

Here are some tips to help you complete the assignment:

- Use Python libraries such as spaCy, PyPDF2, and NLTK to parse and analyze the resume.
- Use regular expressions to extract the candidate's name, email address, and phone number from the resume.
- Use keyword matching and topic modeling to identify the candidate's skills and work experience.
- Use sentence parsing and summarization techniques to generate a concise summary of the candidate's skills and experience.
- Test your program with multiple resumes to ensure it works correctly for a variety of formats and layouts.

Deliverables

Submit the following deliverables:

1. Python code for the resume summarization tool.
2. A text file containing the summarized resume for each candidate.
3. A brief write-up explaining your approach and any challenges you faced during the project.

Evaluation Criteria

Your assignment will be evaluated based on the following criteria:

1. Correctness: Does your program correctly identify the candidate's name, contact information, skills, experience, and education?
2. Conciseness: Does your program produce a clear and concise summary of the candidate's skills and experience?
3. Robustness: Does your program work correctly for a variety of resume formats and layouts?
4. Code quality: Is your code well-organized, easy to read, and well-documented?
5. Creativity: Did you use any novel techniques or approaches to improve your program's performance or accuracy?

Conclusion

Resume summarization is a useful skill for Python developers who need to quickly evaluate job applicants. By completing this assignment, you'll gain experience in using NLP techniques, parsing resumes, and generating concise summaries of candidate qualifications. Good luck!