

PROJECT: AUTOMATED RESUME PARSER AND SKILL MATCHER

Goal

To create a tool that:

1. Reads a candidate's resume (PDF or DOCX).
2. Extracts key details — name, email, skills, experience.
3. Compares extracted skills with a given **Job Description (JD)**.
4. Shows a **match percentage** and lists missing or matching skills.

Step 1: Setup Environment

Libraries to install:

```
pip install PyPDF2 python-docx spacy pandas
```

```
python -m spacy download en_core_web_sm
```

Step2: Create a folder

Create a folder name it as ResumeparserProject:

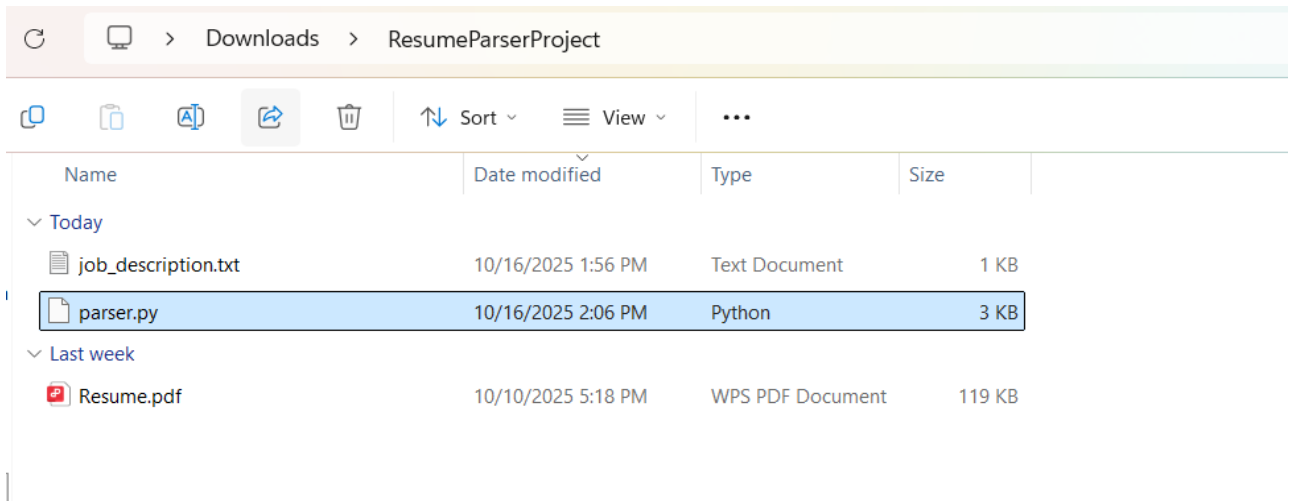
Create three files namely:

Parser.py

Job dicription.txt

Resume.pdf

Below Picture shows the creation of folder and the file:



Now open the file parser.py and add the below code:

```
import PyPDF2
```

```
import re
```

```
import spacy
```

```
# --- Load NLP model ---
```

```
nlp = spacy.load("en_core_web_sm")
```

```
# --- Extract text from PDF ---
```

```
def extract_text_from_pdf(file_path):
```

```
    text = ""
```

```
    with open(file_path, 'rb') as file:
```

```
        reader = PyPDF2.PdfReader(file)
```

```
        for page in reader.pages:
```

```
            text += page.extract_text()
```

```
    return text
```

```
resume_text = extract_text_from_pdf("resume.pdf")
```

```
print("✅ Resume text extracted successfully!")
```

```
print(resume_text[:500])
```

```
# --- Extract email ---
```

```
def extract_email(text):
```

```
    match = re.search(r'\b[A-Za-z0-9._%+-]+@[A-Za-z0-9.-]+\.[A-Z|a-z]{2,}\b', text)
```

```
    return match.group(0) if match else None
```

```
# --- Extract name ---
```

```
def extract_name(text):
```

```
    doc = nlp(text)
```

```
    for ent in doc.ents:
```

```
        if ent.label_ == "PERSON":
```

```
            return ent.text
```

```
    return None
```

```
# --- Extract skills ---
```

```
SKILLS = [
```

```
    "python", "java", "sql", "html", "css", "javascript",
```

```
    "django", "flask", "pandas", "numpy", "data analysis",
```

```
    "machine learning", "cybersecurity", "networking"
```

```
]
```

```
def extract_skills(text):
```

```
    text_lower = text.lower()
```

```

    extracted = [skill for skill in SKILLS if skill in text_lower]

    return list(set(extracted))

# --- Run extraction ---

email = extract_email(resume_text)

name = extract_name(resume_text)

skills = extract_skills(resume_text)


print(f"\n👤 Name: {name}")

print(f"✉ Email: {email}")

print(f"📋 Skills Found: {skills}")


# --- Load job description ---

def load_job_description(file_path):

    with open(file_path, 'r', encoding='utf-8') as f:

        return f.read().lower()

jd_text = load_job_description("job_description.txt")


# --- Match skills ---

def match_skills(resume_skills, jd_text):

    matched = [skill for skill in resume_skills if skill in jd_text]

    match_percentage = round((len(matched) / len(resume_skills)) * 100, 2) if resume_skills
    else 0

    return matched, match_percentage

```

```
matched_skills, score = match_skills(skills, jd_text)
```

```
# --- Print report ---
```

```
print("\n🔗 Skill Match Report")
```

```
print(f"Matched Skills: {matched_skills}")
```

```
print(f"Match Score: {score}%")
```

Open your command prompt and run the file

Py parser.py

```
C:\Users\Nikhilnick\Downloads>cd ResumeParserProject
C:\Users\Nikhilnick\Downloads\ResumeParserProject>py parser.py
✅ Resume text extracted successfully!
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Professional Summary
Enthusiastic and detail -oriented Computer Science graduate with hands -on experience in Python,
Java, JavaScript, and frontend development using HTML/CSS. Skilled in cybersecurity, software
development lifecycle, and database design. Pa ssionate about building secure, ef

👤 Name: Nitisha Dosala
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🌟 Skills Found: ['cybersecurity', 'java', 'python', 'sql', 'javascript', 'machine learning', 'html', 'css']

🔗 Skill Match Report
Matched Skills: ['python', 'sql']
Match Score: 25.0%

C:\Users\Nikhilnick\Downloads\ResumeParserProject>
```

Conclusion:

It is able to match the description and extract the skills, personal details, summary and also it gives the score for the resume.