



Automated Resume/Document Analyzer

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Project Overview

The Automated Resume/Document Analyzer is a Python-based application that compares a candidate's resume with a job description to determine how well the resume matches the job requirements.

It extracts text, identifies key skills and keywords, and calculates a similarity score. The system also lists missing keywords from the resume to help job seekers improve their resumes.

The project features a modern Tkinter GUI with a teal-green themed interface for an attractive user experience.

Features

- 📄 Upload Job Description (PDF/Text)
- 📄 Upload Resume (PDF/Text)
- ⚙️ Automatic Keyword Extraction
- 🔍 Calculates Similarity Score (%)
- ⚠️ Shows Missing Skills/Keywords
- Tkinter GUI (Teal theme)
- ⚡ Lightweight & Runs Fully Offline

Tech Stack

Component	Technology Used
Programming Language	Python
GUI Framework	Tkinter
NLP & Text Processing	NLTK, re, collections
PDF Text Extraction	PyPDF2
Data Visualization	Built-in Tkinter labels & color cues
File Handling	os, filedialog

How It Works

1. The user uploads a job description and a resume (PDF or text file).
2. The app extracts raw text using PyPDF2.
3. The text is tokenized and cleaned (lowercase, removing stopwords and punctuation).
4. It identifies keywords (mostly skill-related terms).
5. It compares job description keywords and resume keywords using set similarity logic.
6. The system calculates a similarity score =
$$\frac{\text{Number of matching keywords}}{\text{Total job description keywords}} \times 100$$
7.
$$\frac{\text{Number of matching keywords}}{\text{Total job description keywords}} \times 100$$
8. The GUI displays:
 - o Similarity Percentage
 - o Missing Keywords

Example Results

Input Files:

- Job_Description.pdf → *Data Analyst (Junior)*
- Resume_1.pdf → *Alex Johnson*
- Resume_2.pdf → *Sarah Lee*

Output Preview:

Resume	Match %	Missing Keywords
Resume_1	84%	machine learning, statistics
Resume_2	41%	python, sql, data visualization, power bi

GUI Preview

 Teal green themed window with:

- Two upload buttons (Job Description & Resume)
- “Analyze” button
- Results section showing match score and missing skills

Installation & Usage

1 Clone the Repository

```
git clone https://github.com/midhunharidas/Automated-Resume-Analyzer.git
```

```
cd Automated-Resume-Analyzer
```

2 Install Dependencies

```
pip install -r requirements.txt
```

3 Run the App

```
python main.py
```

4 Upload PDFs and Click “Analyze”

The GUI will instantly show your match percentage and missing skills.

requirements.txt

- nltk
- PyPDF2
- tk

Future Improvements

- Integrate AI (e.g., spaCy or BERT) for semantic keyword matching.
- Add resume suggestions or rewording tips.
- Export report as a PDF summary.
- Deploy as a web app using Streamlit or Flask.

Author

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