📜 Resume Analyzer - Documentation

📌 Introduction

The **Resume Analyzer** is a Python-based tool that extracts key skills from resumes and matches them to job descriptions using **Natural Language Processing (NLP)** techniques. It supports **multiple resume formats (TXT, DOCX, PDF)** and provides both **console-based and GUI-based** interfaces.

🛠 Installation Guide

1.Clone the Repository

git clone https://github.com/your-username/resume-analyzer.git

cd resume-analyzer

2. Create a Virtual Environment (Optional but Recommended)

python -m venv venv

source venv/bin/activate # For macOS/Linux

venv\Scripts\activate   # For Windows

3. install Dependencies

pip install -r requirements.txt

If requirements.txt is missing, install manually:

pip install nltk PyPDF2 python-docx scikit-learn

4. Download NLTK Data

python -m nltk. downloader punkt stopwords

🚀 Usage Instructions

Running the Program

python resume_analyzer.py

Main Menu Options

◆ Resume Analyzer Menu ◆

1. GUI Mode

2. Console Mode

3. Exit

🎨 GUI Mode

1. Select **"GUI Mode"** (Press 1)
2. Paste the **Job Description**
3. Upload a **Resume (TXT, DOCX, PDF)**
4. Click **"Analyze Resume"**
5. View **Matched Skills & Match Percentage**
6. Click **"Exit"** to close the app

🖥️ Console Mode

1. Select **"Console Mode"** (Press 2)
2. Enter the **Resume File Path**
3. Enter the **Job Description File Path**
4. View **Matched Skills & Match Percentage**
5. Type "exit" to quit

📐 Technical Details

File Handling

- **TXT Files**: Read as plain text.

- **DOCX Files**: Processed using python-docx.

- **PDF Files**: Extracted using PyPDF2.

NLP Processing

- **Tokenization & Stopword Removal**: Uses nltk.

- **Skill Extraction**: Compares text against predefined skills.

- **Job Matching**: Uses **TF-IDF** vectorization for skill relevance.

GUI Development

- Built with **Tkinter** for a user-friendly interface.

✨ Features

✅ **multi-format resume support (TXT, DOCX, PDF)**
✅ **Extracts key skills from resumes**
✅ **Matches skills with job descriptions**
✅ **Displays match percentage**
✅ **Exit options in GUI & Console**

🚀 Future Enhancements

- ◆ **Improved NLP** with Spacy for better skill extraction
- ◆ **Resume ranking system** based on match percentage
- ◆ **Graphical reports** using Matplotlib
- ◆ **Skill database** for advanced matching

❓ Troubleshooting Guide

1. Pip Installation Errors

- If dependencies fail to install, try:
- python -m pip install --upgrade pip
- pip install nltk PyPDF2 python-docx scikit-learn

2. NLTK Data Not Found

- Manually download missing data:
- python -m nltk. downloader punkt stopwords

3.PDF Not Extracting Text Properly

- Some PDFs use **scanned images** instead of text. Use OCR tools like pytesseract.

4. GUI Not Opening

- Ensure Tkinter is installed:
- python -m tkinter

📜 License

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📬 Contact

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