Smart Resume Analyzer & Job Predictor

Revolutionizing the hiring process through intelligent document analysis and predictive matching.

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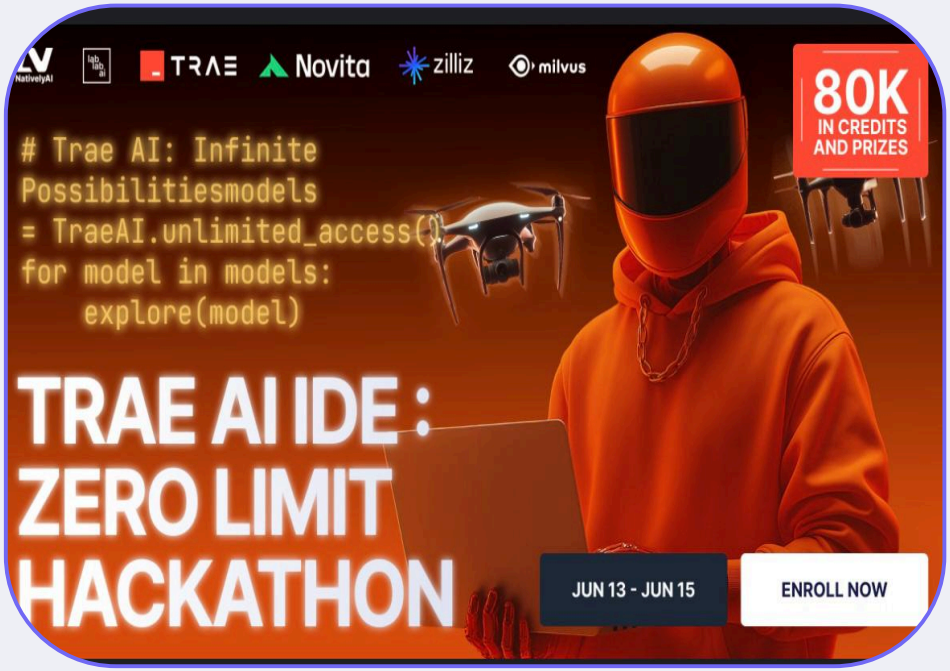
ZERO LIMIT HACKATHON



PROBLEM STATEMENT

- 75% of resumes fail to highlight relevant skills (LinkedIn).
- Job seekers struggle with resume optimization across industries
- Employers need efficient tools to match candidates to roles
- Visual: Split image of a frustrated job seeker and a hiring manager

SOLUTION OVERVIEW

OUR SOLUTION

- PDF/DOCX → Text Extraction → NLP Processing → Skill Matching → Position Prediction

Key Benefits:

- **70% faster screening**
- **40% better match accuracy**
- **Actionable improvement feedback**

Project Overview

Resume Scanning

Automatically extracts and analyzes key information from candidate resumes.

AI-Powered Analysis

Uses natural language processing to understand resume content beyond keywords.

Job Matching

Predicts suitable positions based on candidate skills and experience.

Technical Architecture

Python Core

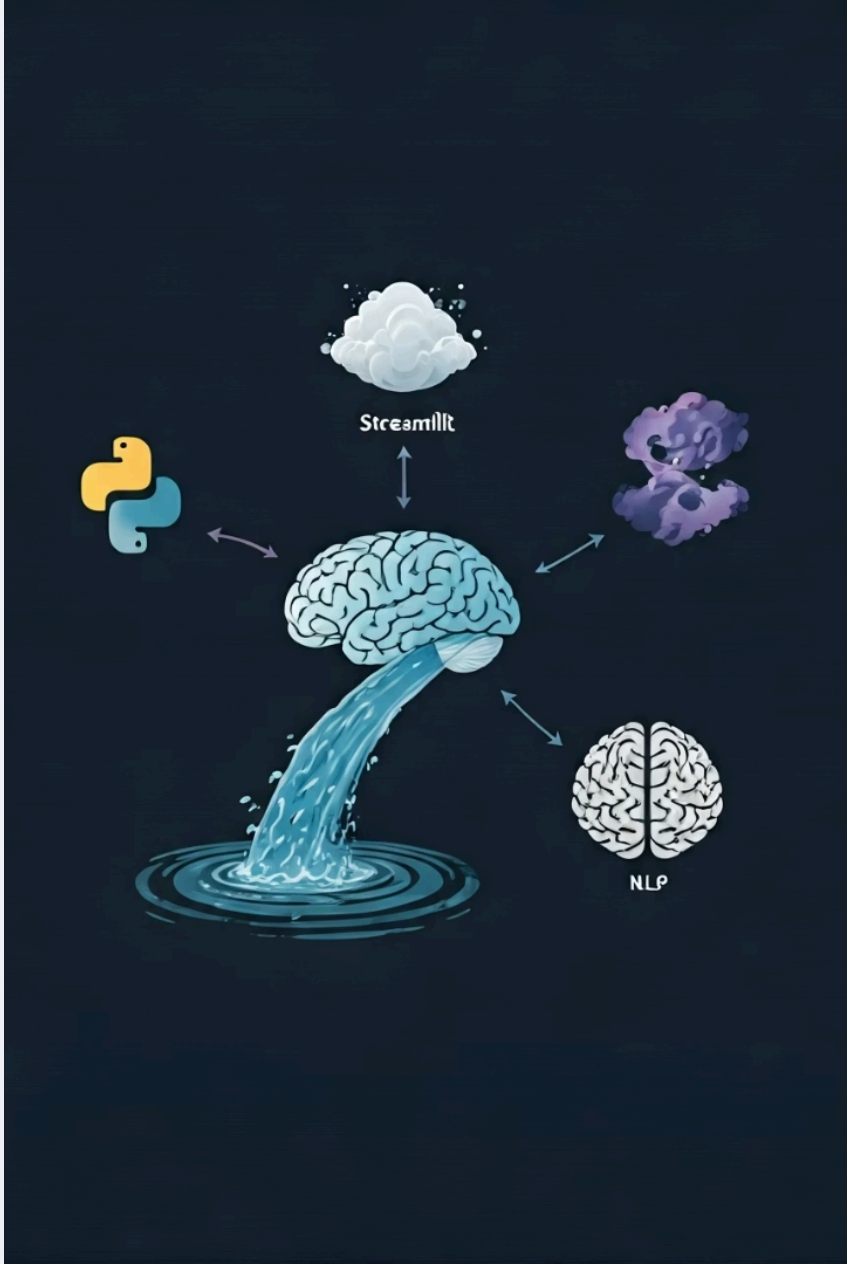
Foundation of all processing and analysis functions.

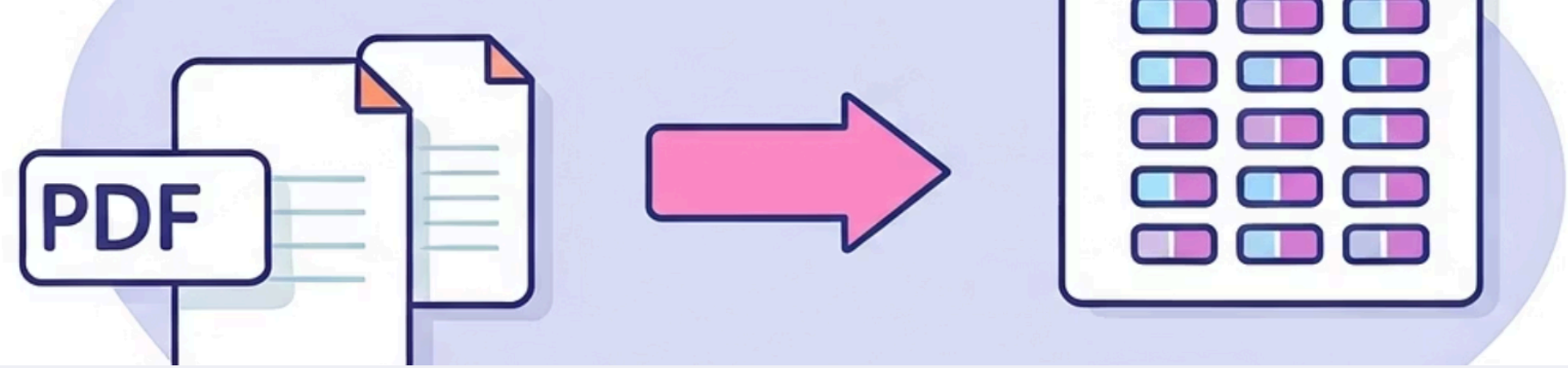
Streamlit Frontend

Interactive web interface for uploading and analyzing resumes.

NLP Components

spaCy and custom models extract structured data from unstructured text.





Key Features

1 **Document Parsing**

Extracts text from PDF and DOCX files using PyPDF2 and docx libraries.

2 **Text Normalization**

Cleans and standardizes extracted text with regex patterns.

3 **Skills Identification**

Matches resume content against common skills database including programming and soft skills.

4 **Visualized Results**

Presents findings through interactive charts and highlighted text.

Name and Experience Recognition

```python
def rate_resume(name, email, phone, skills):
    if email:
        score += 25
    else:
        feedback.append("Missing email")

    if phone:
        score += 25
    else:
        feedback.append("Missing phone number")

    if skills:
        score += 25 * (min(len(skills), 3) / 3)
    else:
        feedback.append("No skills identified")

    return score, feedback
```

Named Entity Recognition

Identifies person names with high accuracy

Experience Timeline

Maps career progression and duration

Organization Detection

Recognizes company names and institutions

Our system leverages spaCy's powerful NLP capabilities to identify and extract candidate information. This creates structured profiles from unstructured resume text.

Skill Matching Algorithm

Extract Skills

tify technical and soft skills from the resume text

Match Against Database

Compare against comprehensive skill repository

```python
def suggest_job_positions(skills):
    ghl_skills = {"go high level", "crm", "funnels", "email marketing", "automation", "a2p", "ghl"}
    banking_skills = {"finance", "banking", "loan", "compliance", "accounting"}
    teaching_skills = {"teacher", "lesson planning", "classroom", "curriculum", "education"}

    suggested = []
    lower_skills = {s.lower() for s in skills}

    if ghl_skills & lower_skills:
        suggested.append("GoHighLevel Automation Expert")
    if banking_skills & lower_skills:
        suggested.append("Banking & Financial Analyst")
    if teaching_skills & lower_skills:
        suggested.append("Educator / Teacher / Instructor")

    if not suggested:
        suggested.append("General Role (Based on Skills)")

    return suggested
```

Predict Job Fit

Suggest optimal positions based on skill alignment

Weight Relevance

Prioritize skills based on job requirements

Live Demo

Upload Resume

Users can drag and drop PDF or DOCX files into the interface.

Processing

The system extracts text, identifies entities, and matches skills in seconds.

Results Dashboard

Interactive visualization shows candidate strengths and recommended positions.

Future Enhancements

Advanced AI Models

Deeper contextual understanding of experience

Industry-Specific Analysis

Tailored evaluation for different sectors

ATS Integration

Seamless connection with existing HR systems