

AI Career Copilot – Project Overview

An AI - powered FastAPI application that analyzes resumes, compares them with job descriptions, and provides match scores, skill gaps, and interview insights. This project demonstrates real - world AI, NLP, and backend engineering suitable for AI/ML, Python, SDET, and backend roles.

Key Features

- Resume PDF parsing and clean text extraction
- NLP - based technical skill identification
- Semantic similarity using Sentence Transformers
- Skill overlap scoring and final match percentage
- Missing skill detection for improvement guidance
- Production - style FastAPI REST API with Swagger UI

Technology Stack

Backend: Python, FastAPI, Uvicorn

AI/NLP: Sentence Transformers, spaCy, RapidFuzz

PDF Processing: pdfplumber, PyMuPDF

ML Utilities: scikit - learn, NumPy

Application Workflow

- Upload a resume PDF
- Paste a job description
- Extract skills from both sources
- Compute semantic similarity and skill overlap
- Generate final match score and missing skills

Real - World Use Cases

- Automated resume screening
- Career guidance and skill gap analysis
- HR technology platforms
- Interview preparation assistants

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