GoAccelovate

Machine Learning Engineer Assessment (Job Finder API)

Overview

The goal of this assessment is to build a Job Finder API that fetches relevant job listings from online sources like LinkedIn, Indeed, and one additional source of the candidate's choice (e.g., Google Jobs, Glassdoor, Rozee.pk). The API should process user inputs (job title, experience, salary, skills) and return a structured table of relevant jobs.

• Mandatory sources: LinkedIn & Indeed
• Optional sources: Candidates can choose one (Google Jobs, Glassdoor, Rozee.pk, etc.)
• Bonus points: Implementing all possible sources

Technologies & Tools

✅ FastAPI – For building the API
✅ Python – Core language
✅ BeautifulSoup/Selenium/Scrapy – For web scraping (if no API is available)
✅ Requests / HTTPX – For making API calls to job portals
✅ LLMs (OpenAI API, Hugging Face models, LangChain, or similar) – To analyze job descriptions for relevance

Scenario & Workflow

1. User sends job search criteria as a JSON request to the API.
2. API scrapes job listings from LinkedIn, Indeed, and one other selected source.
3. Relevance Filtering: The API compares job descriptions with the input criteria using LLMs (e.g., OpenAI GPT, Hugging Face models, or LangChain).
4. Returns structured results in a tabular JSON format.

API Input Format (JSON)

```
{
  "position": "Full Stack Engineer",
  "experience": "2 years",
  "salary": "70,000 PKR to 120,000 PKR",

"jobNature": "onsite",
```

"location": "Peshawar, Pakistan",
 "skills": "full stack, MERN, Node.js, Express.js, React.js, Next.js, Firebase, TailwindCSS, CSS Frameworks, Tokens handling"
}

API Output Format (JSON - Structured Table)

{
 "relevant_jobs": [
  {
   "job_title": "Full Stack Engineer",
   "company": "XYZ Pvt Ltd",
   "experience": "2+ years",

   "jobNature": "onsite",
   "location": "Islamabad,Pakistan",
   "salary": "100,000 PKR",
   "apply_link": "https://linkedin.com/job123"
  },
  {
   "job_title": "MERN Stack Developer",
   "company": "ABC Technologies",
   "experience": "2 years",

  "jobNature": "onsite",
   "location": "Lahore, Pakistan",
   "salary": "90,000 PKR",
   "apply_link": "https://indeed.com/job456"
  }
 ]
}

Deliverables

📌 Fully functional FastAPI-based Job Finder API, deployed link is appreciated.

📌 Source code (GitHub Repo)

📌 Documentation explaining API endpoints and how the job matching works with screenshots and explanation.

📌 A sample JSON request and response for testing the API

Additional Comments
• Web Scraping Considerations: Some platforms like LinkedIn have restrictions. Using APIs is preferred.
• LLM Processing: Job descriptions should be matched with user criteria to filter only relevant jobs.