

Project Title:

Job Market Insights from Arab Countries using Bayt.com Job Listings

Website to Scrape:

bayt.com – One of the largest online job portals in the Middle East and North Africa.

Project Objective

To analyze and compare the job markets in **Egypt** and **Saudi Arabia** by extracting real-time job data and generating actionable insights for:

- Job seekers
 - Career advisors
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Key Insights to Extract

- Most demanded **skills** per country and industry
- Trends in **work types** (remote vs on-site vs hybrid)
- **Experience level** vs number of available jobs
- **Biases** in employer preferences (age, gender, nationality)
- Most popular **roles** in each country
- Overall **comparison** between Egypt and Saudi Arabia job markets

Approach:

1. Data Extraction:

- Use requests, BeautifulSoup .
- Automate the navigation between job list pages and detailed job pages.
- Store extracted data into structured formats (e.g., CSV, JSON).

2. Data Cleaning:

- Normalize missing values and standardize text fields.
- Convert string-based numeric fields (e.g., "3+ years") to integer values.
- Standardize location and job category fields.
- Using Regular Expressions to extract meaningful information

3. Data Analysis:

- Job frequency by country, industry, and experience level
- Distribution of remote vs hybrid vs on-site jobs
- Required skills heatmap
- Candidate preference trends
- Keyword extraction from job descriptions

4. Data Visualization:

- Use Matplotlib, Seaborn, and Plotly for interactive charts
- Create summary dashboards (e.g., most demanded jobs, most mentioned skills)
- Optional: build a mini dashboard using Streamlit

Brief Description of the Data:

- We will scrape job listings from different Arab countries (Egypt, Saudi Arabia).
- For each job post, we will extract both summary and detailed information, including:
 - Job Title
 - Company Name
 - Country and City
 - Date Posted
 - Work Type (Remote, Hybrid, On-site)
 - Years of Experience
 - Number of Vacancies
 - Job Category (e.g., Marketing, IT)
 - Company Size and Industry
 - Job Description
 - Required Skills
 - Preferred Candidate Criteria (e.g., Age, Gender, Nationality)

Expected Outcome:

A clean, structured dataset of real job listings across two Arab countries, and a set of analytical visualizations revealing insights into regional job market trends.