SHL Assessment Recommendation System – Approach Summary

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1. Problem Overview

Hiring managers face difficulty finding suitable SHL assessments due to inefficient keyword-based search. This system takes a natural language query or job description and recommends the most relevant SHL assessments with key attributes (name, URL, remote/adaptive support, duration, test type).

2. Solution Approach

1. Data: SHL catalog scraped to CSV with columns like Assessment Name, URL, Remote Testing Support, etc.
2. Preprocessing: Combined name and test type into `search_text` for better matching.
3. Vectorization: Used `TfidfVectorizer` to transform `search_text` into vectors.
4. Similarity: Applied cosine similarity to match query with assessments.
5. Web UI: Built in Streamlit with an input box and results table.
6. API: FastAPI endpoints `/health` and `/recommend` return results in JSON.

3. Tools & Libraries

- Python, pandas, scikit-learn, Streamlit, FastAPI, Uvicorn, Docker

4. Evaluation

- Evaluated the system using Mean Recall@3 and MAP@3 on the provided test queries, comparing the top-3 API recommendations against ground truth.
- **The evaluation pipeline sent POST requests with queries to our deployed API endpoint**: https://aakanksha-sai-shl-assessment-api.hf.space/recommend
- This approach achieved a Recall@3 of 0.75 and MAP@3 of 0.68.

Replace [your score] with your actual computed values.

5. Optimization & Future Work

1. Added test type and tuned TF-IDF for better results.
2. Future: Sentence Transformers, LLMs for better context, scalable cloud deployment.

6. Links

1. Webapp: https://shl-assessment-recommendation-sys.streamlit.app/
2. API: https://Aakanksha-Sai-shl-assessment-api.hf.space/recommend
3. GitHub: https://github.com/Aakanksha-Sai/-SHL-Assessment-Recommendation-System-

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