

SHL Assessment Recommender – Solution Overview

Objective

Build a recommendation system that suggests the top 10 SHL assessments most relevant to a user's career goal or job aspiration.

Approach

1. Data Preparation:

- Input data (assessment_data.csv) contains SHL assessment details.
- Preprocessing was assumed to have been handled beforehand for cleaned_text used in embeddings.

2. Embedding Technique:

- Used Sentence-BERT (SBERT) from the sentence-transformers library for semantic textual similarity.
- SBERT converts both the user's career goal text and the assessment descriptions into high-dimensional vector embeddings.

3. Similarity Search:

- Used FAISS (Facebook AI Similarity Search) to enable fast and efficient similarity queries on embedded vectors.
- FAISS index (faiss_index.index) was precomputed on the assessment embeddings and loaded at runtime.

4. Recommendation Logic:

- Encoded the user input using the SBERT model.
- Queried the FAISS index to retrieve the top 10 most semantically similar assessments.
- Displayed a subset of the most relevant assessment metadata as recommendations.

5. User Interface:

- Developed using Streamlit for rapid deployment and an interactive web interface.
- Users input their career goals in a text box and receive real-time recommendations upon clicking a button.

Tools & Libraries Used

- streamlit - UI development and deployment
- pandas, numpy - Data manipulation
- sentence-transformers - SBERT for text embeddings
- faiss - Vector similarity search
- warnings - Suppress non-critical warnings

Outcome

An interactive web application that provides accurate and personalized SHL assessment recommendations based on semantic