CSCE-670

April 2025

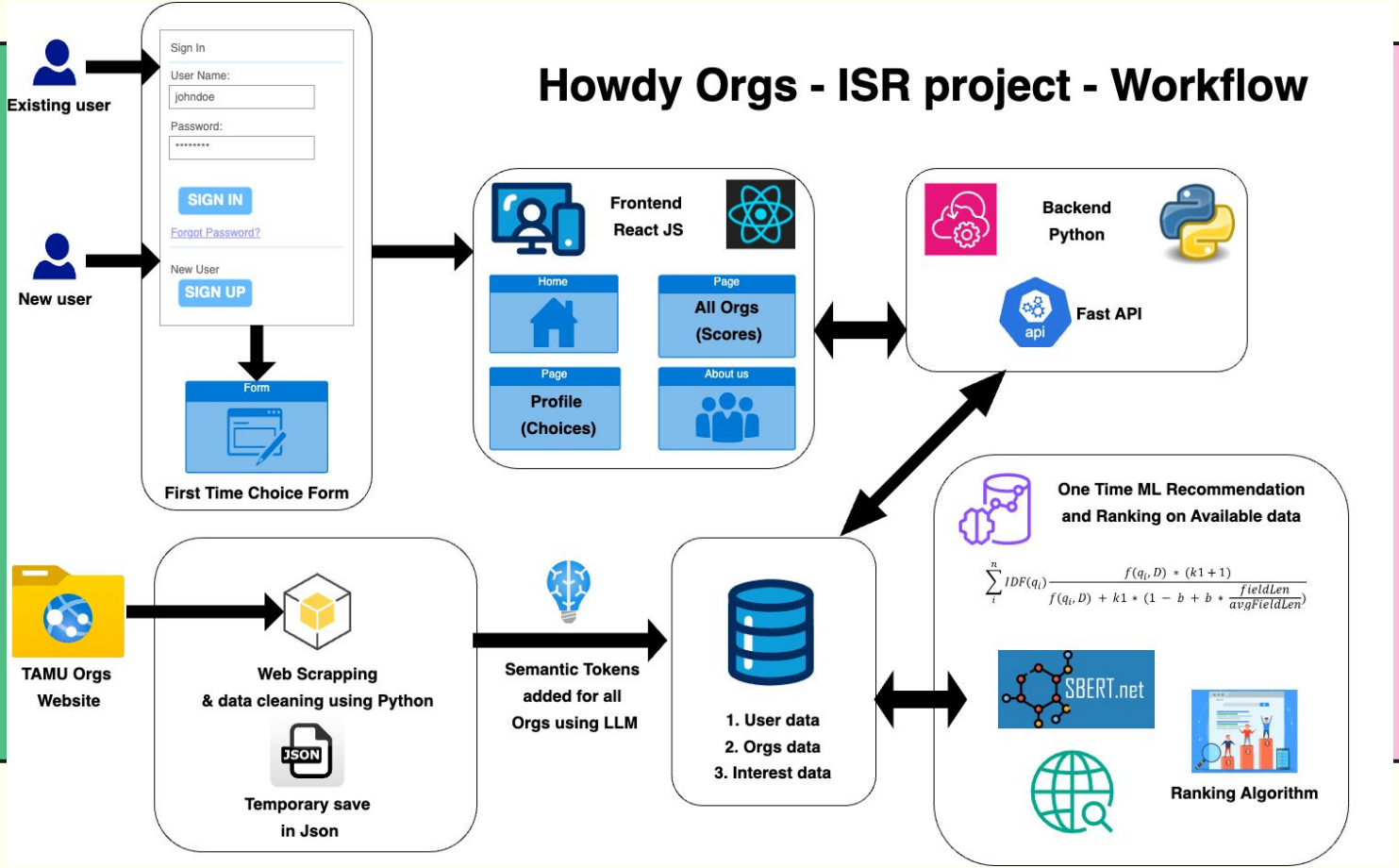
"Howdy Orgs"

Find Your Aggiemates and More !

Project Showcase

Alisha Raj | Sukanya Sahoo | Gauri Pawar | Asmita Shivling Desai

Workflow


Howdy Orgs - ISR project - Workflow
Existing user
New user
Sign In
User Name:
johndoe
Password:
SIGN IN
Forgot Password?
New User
SIGN UP
Form
First Time Choice Form
Frontend
React JS
Home
Page
All Orgs
(Scores)
Page
Profile
(Choices)
About us
Backend
Python
api
Fast API
TAMU Orgs
Website
Web Scrapping
& data cleaning using Python
JSON
Temporary save
in Json
Semantic Tokens
added for all
Orgs using LLM
1. User data
2. Orgs data
3. Interest data
One Time ML Recommendation
and Ranking on Available data
SBERT.net
Ranking Algorithm

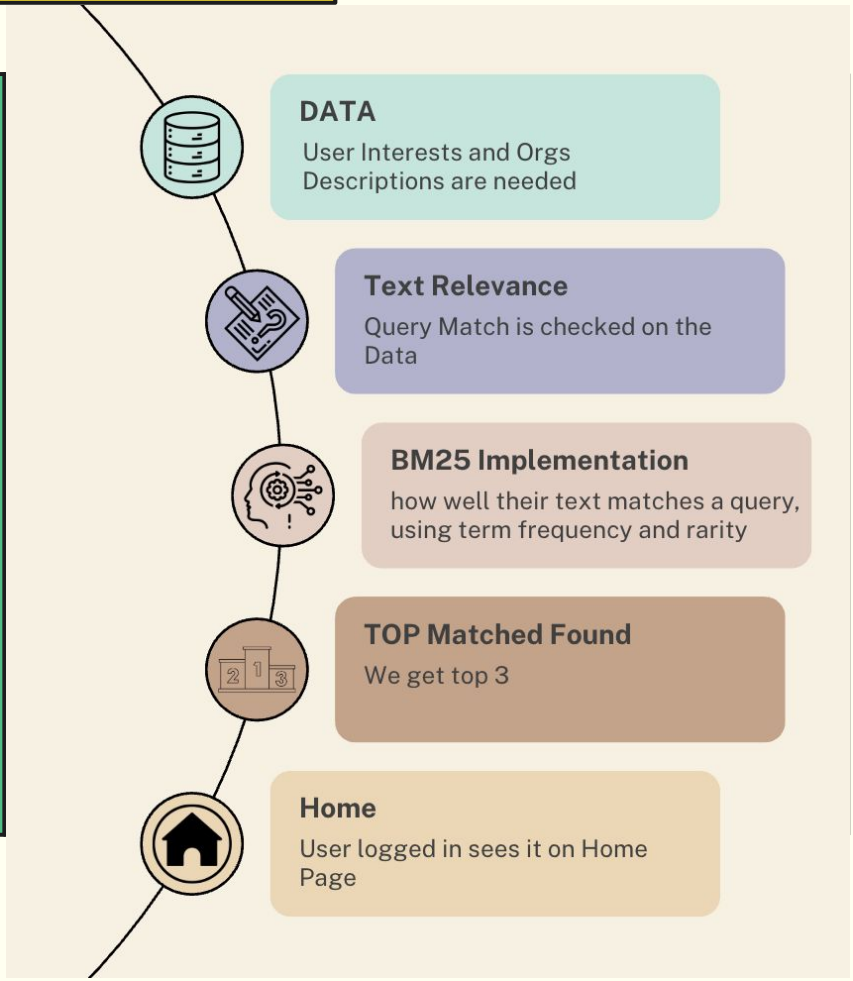
Recommendation

How it works?

- **Content-based** approach using **BM25** for text relevance ranking
- User interests form the **query**
- **BM25** ranks orgs by description relevance
- **Top matches** are displayed in the frontend

Why BM25?

- **Cold-start friendly:** new users/orgs are supported
- **Fast, interpretable, and deterministic**
- Excellent for **keyword-based** and free-text interest matching



SBERT (Sentence-BERT) for Ranking Orgs

BM25 limitations

- Word-matching only Misses semantic similarity

Why SBERT?

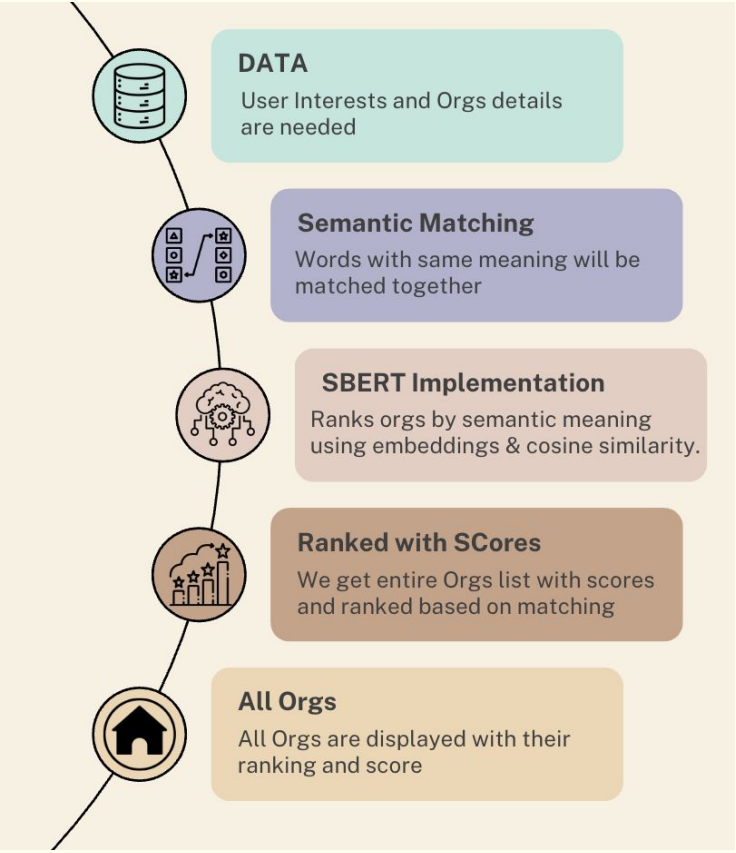
- Embeds user interests and org descriptions into vector space
- Uses **cosine similarity** for ranking
- Captures **semantic meaning**
- Fast, light

Model Used:

- `all-MiniLM-L6-v2`

How it works:

1. User interests → SBERT vector
2. Each org → SBERT vector
3. Compare via cosine similarity
4. Sort orgs by score → Top matches!



Thank You!

From Team Howdy Orgs