#opentowork

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Background

- **Problem:** Bob wants a job! But not sure where to start.
- **Goal:** Improve the job searching experience and opportunity of getting hired based on individual-tailored resume
- **Solution:**
  - A tool to calculate how well a resume matches a job listing and the number of matching skills
  - A web app that demonstrates match scores with job information and includes a dashboard for job application tracking

Data Used

- **Data Sources:** uploaded resumes & scraped job listings
  - Scraped data-related jobs from LinkedIn & Indeed
  - Extracted skills from resumes and job descriptions
  - Used resumes and job descriptions to calculate match score
- **Limitations:**
  - Scraping can be unstable and time-consuming
  - Currently only supports one resume at a time

Use Cases – Bob

Bob is our job seeker!
How will Bob use #opentowork?

Apply to Matching Jobs

1. Bob: uploads his resume

2. *System:* displays jobs, skills, the match scores, and skill match details

3. Bob: checks that his dream job matches well with his resume

4. Bob: clicks "Apply through external website" to apply on LinkedIn/Indeed

Analyze & Update Skills

1. Bob: uploads his resume

2. *System:* displays extracted skills

3. Bob: adds or deletes skills

4. *System:* updates skill match details for job listings

Design

Web Scraper

- Scrapes job listings from LinkedIn and Indeed
- Saves listing data in a csv file
- Runs upon user request using a button on the web app

Resume/Job Description Skill Analyzer

- Extracts skill keywords from resumes/job descriptions using Spacy and json file of data-related skills
- Shown on web app for each resume

Design

Match Score Generator

- Computes resume and job description vector embeddings with SentenceTransformer
- Calculates a cosine similarity score between resume and job description embeddings
- Shows score as a rounded percentage on web app

Web App Interface

- Allows for resume upload and adding skill in the extracted skill set
- Displays job listings, match percentages, and skill matches
- Users can trigger web scraper to update job listings using button
- Users can click the link for external applications and track them by clicking "I applied!" button

Lessons Learned & Future Work

- **Lessons Learned:**
  o Collaborative development requires effective communication (resolve merge conflicts)
  o Prioritizing tasks is essential (especially with hard deadlines)
- **Future Work:**
  o Adding profiles to allow for comparison of resumes and saving dashboards
  o User dashboards with resume analysis
  o Allow for filtering on employer sponsorship policy
  o Allow users to input links for specific jobs of interest
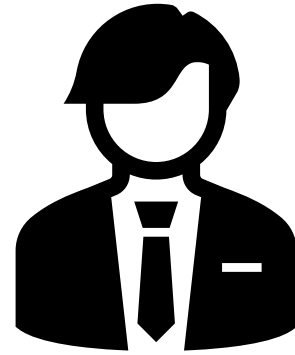
Demo

Open To Work

Upload your resume

Drag and drop file here
Limit 200MB per file • PDF

Browse files

Thank you!