SWESEEK

CPSC 471 - Project Proposal - Team 45

1. Introduction

Currently students in computer science and software engineering disciplines have troubles with their internship job hunt. Issues arise in finding intern level jobs, keeping track of the hundreds of applications that students send out to secure jobs, and learning how to pass the technical interview.

Our proposed solution is to address all these issues with an integrated software called SWESEEK. A platform where students can have easy access to swe internships without needing to filter through job sites, can keep track of these jobs as well as the jobs that they have applied to, and can finally comprise all the top learning resources on how to pass technical interviews.

The motivation behind this comes from the hardship that we came across ourselves while we started our internship hunt and were not able to address the above issues. In the following segments of this proposal we will provide a much more detailed explanation of the problem, the solution and our motivation as well as summarize the proposal in the conclusion at the end.

Components involved in this project:

(i) Web Scraping
(ii) Mobile-friendly website development
(iii) Database Implementation
(iv) Implementation of Machine Learning Models

2. Problem definition

The problems encountered by engineering students looking for internships are common, this led to the birth of a feature in LinkedIn that eased the hardships of job searching, significantly but not completely. The problem interests my team mainly due to the hardships we have faced while looking for intern level jobs. The Problem is solved to some extent but the current state of solution is impractical as most of these features are segregated over different applications making the entire process of job-searching extremely tedious, Some of these applications include:

1. LinkedIn - platform for professional networking and career development, connects employers to prospect employees
2. Huntr - platform to organize and keep track of your job search, aids in discovering new opportunities.

3. Indeed - platform that possess job listings, job searchers can apply to their dream jobs directly from the indeed website.

Possible improvement to the existing solution are but not limited to integrating job search with job tracking, providing personalised recommendation of job opportunities using multiple parameters provided by the user, providing resources to aid the job seeker in their respective technical and non technical interviews and visualization of data that keeps track of the users progress in their job hunt.

3. Proposed solution

SWE Seek further simplifies the issues by bringing together the features of many different job search tools, with an added touch of our own features to make job search an easy-going experience.

The Project produces a mobile-friendly web application with numerous features aimed at easing the job search process for the users made possible by utilizing multiple coding segments like Web Scraping, DBMS and Machine Learning.

Key Product features:

- Provides users with personalized job recommendations based on multiple parameters like years of experience, previous employment, personal skills etc.
- Keeps track of all the companies applied to, status of each application, location and pay info, and files submitted for each application like CV, Resume and Cover Letter.
- Provides resources to ace technical interviews and optimize application documents such as Resume and Cover Letters based on the type of job being applied to.
- Visualizing the data provided by the user to facilitate easy tracking of progress for each application as well as overall job seek statistics.

4. Motivation

Job searching in the software engineering space can be hard. Searching through job searching platforms trying to find relevant jobs only to find internships requiring “5 years of experience”, keeping track of the hundreds of job applications you have sent out, finding resources to prepare for interviews. This is what we found in our internship hunts as well as from reading countless anecdotes from students over the world and is why students can find value in our solution. While there exists job searching websites, and there exists some job tracking solutions, as well as an abundance of free online

learning resources. No one has yet integrated these into one place where users don't have to use 4, 5, 6 or more platforms, and there is no solution for easily adding jobs to your tracked list without manually entering all the details. This is the hole in the market we are intending to fill.

5. Conclusion

SWE Seek is a project which stems from our personal frustration as Interns unable to readily find suitable jobs and essential employment securing strategies at our fingertips. Most of the current systems aimed at easing job-searching experience essentially perform as job-search engines which lack personalization and essential features like progress visualization and resource banks which forces the users to seek multiple external applications making the process extremely tedious and inconvenient. Our application SWE Seek is a one-stop-shop for all your job-search related needs. It is a mobile-friendly web application which provides job-seekers a seamless job-searching experience, made possible by incorporating Web Scraping, DBMS and Machine Learning.

The following summarizes our planned timeline for the project:

- Detailed design document of database design (Oct 20th, 2021)
- Logical relational model (Nov 5th, 2021)
- API Endpoints built, Frontend built (Nov 25th 2021)
- Frontend connected to Backend and db, project deployed (Dec 5th 2021)
- Final Report completed (Dec 8th 2021)