# Objective

This project aims to imitate some simple operations of a job searching website. It provides users with up-to-date job post information and supports job searching and filtering. It also allows companies to post and manage new job opportunities decently. The sources are collected from Indeed. The developer hopes to realize similar functions as a normal job searching website.

# Overview

This project is built up with 4 important components, which can be listed as follows:

1) ***web crawler***: used to collect job posts from [Indeed](https://sg.indeed.com/?r=us) routinely

2) ***front-end pages***: provide user interfaces for job searching and result displaying

3) ***back-end API***: realize the logic for web pages, retrieve and proceed with user inputs while interact with databases to collect and return the results

4) ***databases***: used to store all the useful information (roles, users, jobs, etc.) and provide quick searches for job posts

# Infrastructure

The overall project is written in Python, and supported by Flask.

The web crawler uses Selenium to simulate user login and to retrieve the static / dynamic contents from the original website. Once the contents are collected, they are proceeded locally with Beautiful Soup (bs4).

The front-end pages are displayed as html files with CSS models. Bootstrap is chosen for page rendering. The results of interaction between front-end and back-end APIs are reflected in web pages with the help of Jinja2 template engine, which is provided by Flask.

The back-end logics are realized with Flask, a lightweight Python framework. The visiting activities are recorded by sessions, which are supported by flask\_session.

Two types of database systems are applied in this project. MySQL is selected for storing all the information, including roles, accounts and job posts (forward indexed). Meanwhile, since the main function of a job searching site is the search for jobs, Elasticsearch is adopted to support inverted indexing of the job posts in order to accelerate the searching process.