

# Job Search Engine

---

MIDTERM PROJECT REPORT

**Chris Pappelis**

cfp4@hood.edu

**Matthew Smith**

mps3@hood.edu



[github.com/msmithp/  
job-search-engine](https://github.com/msmithp/job-search-engine)

# Project Overview



- What is the Job Search Engine?
- Objectives:
  1. Streamline CS job searching
  2. Present in-demand CS skills

# Previous Work & Project Plan

- Other systems
- Problems with job searching
  - Amount of information
  - Inaccurate filtering
- Our plan

**Automation Software Engineer**  
Deloitte  3.9 ★ 500 E Pratt St Ste 500, Baltimore, MD 21202

You must create an Indeed account before continuing to the company website to apply

[Apply now !\[\]\(b4572a044582c68c9e6e6b6b9b95c325\_img.jpg\)](#)  

---

**Full job description**

In this age of disruption, organizations need to navigate the future with confidence by tapping into the power of data analytics, robotics, and cognitive technologies such as Artificial Intelligence (AI). Our Strategy & Analytics portfolio helps clients leverage rigorous analytical capabilities and a pragmatic mindset to solve the most complex of problems. By joining our team, you will play a key role in helping to our clients uncover hidden relationships from vast troves of data and transforming the Government and Public Services marketplace.

**Work you'll do**

We are seeking an energetic and highly skilled Software Automation Developer to join our dynamic team. The ideal candidate will have a strong foundation in software engineering practices and extensive experience with Python, as well as other foundational languages such as .NET, Java, JavaScript, PowerShell, Ruby, Pearl, and additional languages commonly associated with automation. This role requires the ability to conduct end-to-end processes, design the best automation solution, and develop the solutions. The successful candidate will also be eager to learn and implement other automation tools like Robotic Process Automation (RPA) and explore AI solutions such as Agentic AI.

**The team**

# Technical Description

- Main features
  - Job search
  - Skill search
  - Dashboard
- Languages used
  - Python
  - TypeScript

Tech stack:

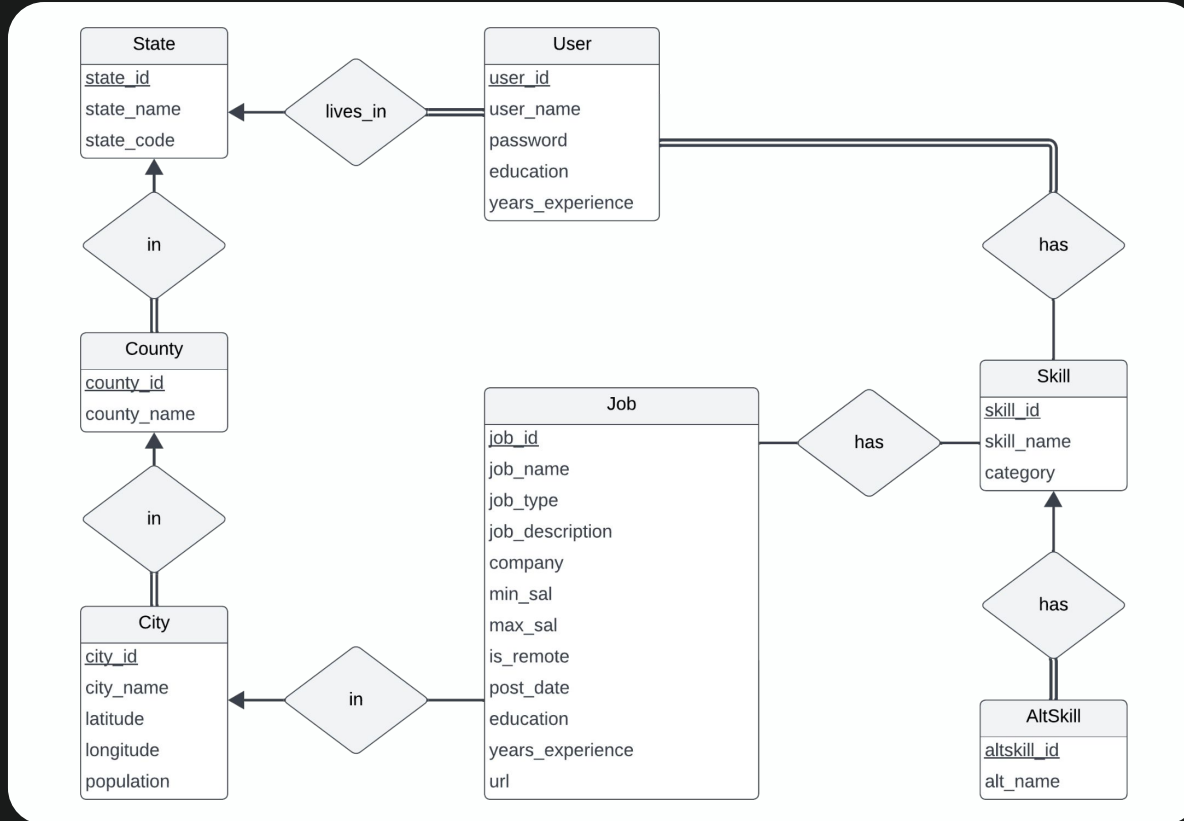
**Node.js**

**React**

**Django**

**PostgreSQL**

# Technical Description



# Accomplishments

**1,265**

lines of code

**4,000**

scraped jobs

**9**

database tables

- Major features
  - Web scraper
  - Database implementation
  - Skill and requirement extraction
  - Skill chart visualization
  - Job search functionality
  - Compatibility calculation
- Quality of work
- Size

# Project Status

## Search jobs

Location:

Maryland ▼

Education level:

Bachelor's degree ▼

Years of experience:

5

Skills:

PostgreSQL ▼	Delete
Node.js ▼	Delete
Django ▼	Delete
React ▼	Delete
TypeScript ▼	Delete
HTML ▼	Delete
CSS ▼	Delete
Python ▼	Delete

Add a skill

Search jobs

- [Data Scientist, Mid](#)

**Booz Allen Hamilton**

Your compatibility: **61/100**

Fort Meade, MD

Salary: \$75,600 - \$172,000

7 years of experience necessary

Education requirement: Bachelor's degree

Prerequisite skills: Python, SQL

Description:

Data Scientist, Mid\*\*The Opportunity:\*\*

Do you want to work at the forefront of advanced technology and solve complex data challenges? You know that data yields pivotal insights when it's gathered from disparate sources and organized. As a data scientist, you'll have the chance to develop and deploy the pipelines and platforms that make this data meaningful. What's more, you'll have the chance to grow MIOps and DataOps capabilities while working with a multi-disciplinary team of analysts, data...

[Show more](#)

# Team Effort

- Team operation
- Waterfall methodology
- Tools used

Team Member	Role	Hours of Work
Chris Pappelis	Back-end Lead	35
Matthew Smith	Front-end Lead	53



# Lessons Learned

- Interface planning
- Dependency management
- Type safety

# Expected Future Work

Activity	Implementation	Expected Due Date
Skill map visualization	Leaflet, GeoJSON	March 27
Account system	React, Django	April 8
Dashboard	Use pre-existing functionality	April 17
UI refinement	HTML, CSS styling	May 1

# Demo

# Questions?

Presentation files can be found at  
[github.com/msmithp/job-search-engine/documentation/midterm\\_presentation](https://github.com/msmithp/job-search-engine/documentation/midterm_presentation).