

Code To Give

A Social Good Hackathon



# CODE TO GIVE ALPFA ATLANTA

GROUP 5:

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# Objective

Create ALPFA Atlanta website that matches job posted from employers to potential applicants



# Website Architecture Framework



Home	<ul style="list-style-type: none"><li>- 3 different roles: Admin, Employers, Applicants</li></ul>
Admin	<ul style="list-style-type: none"><li>- View all the registered members</li><li>- View all the registered companies</li><li>- View the members matched to job posted</li><li>- Admin Dashboard</li></ul>
Employers	<ul style="list-style-type: none"><li>- Enter job details (title, required skills, job description, <u>etc</u>)</li><li>- See the matched members and decide to schedule an interview</li><li>- Option to filter applicants based on keywords, requirements, years of <u>experience,...</u></li></ul>
Applicants	<ul style="list-style-type: none"><li>- Enter/edit their details (name, skills, upload resume, <u>etc</u>)</li><li>- Get access information about matching jobs, scheduled <u>interviews,...</u></li><li>- Filter out employers</li></ul>

# Tech Stack



## **Frontend:**

- Django
- HTML/CSS/JS
- React

## **Backend:**

- Python
- MongoDB
- JS

# Job Matching Algorithm



Main algorithm used: Doc2Vector (Document to Vector) + cosine distance

- Use Doc2Vec to convert Job Descriptions and Resumes into Vectors, where similar documents are closer to each other
- Calculate the cosine similarity between vector of job description and the vectors of candidate resumes. The closer the cosine similarity is to 1, the better the match between the resume and the job.

# Demo



<https://github.com/chironbang/alpfa-job-board>

# Limitations & Future Improvements

- Due to time constraint:
  - Admin page was not created
  - Top k candidates for a job was not shown
- Computationally expensive: Doc2Vec requires a substantial amount of training data to build accurate representations.
- Matching algorithm: taking into account more factors other than the resume, such as demographic, ALPFA years of involvement,...
- Suggest jobs to applicants based on their preferences: locations, salary range, industry,...

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# Thank you for listening!