



Project Course-To-Career (C^2)

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Background

Finding summer internships and full-time jobs can be extremely stressful for most students at UC Berkeley. We've taken all the "right" classes, completed all the "right" projects, and taken all the "right" tests. **But what are these things "right" for?**

Once we learn these skills, we're left to search from jobs and opportunities that best fit what we learned. But when we look for these internships or jobs, opportunities don't always match up to our skill sets.

Our tool fixes that by matching students who have spent the time to learn certain skills with opportunities that require them, making for a smoother, more coherent job search experience.

User Persona



Meet Lucy. As an Industrial Engineering and Operations Research Major, Lucie learned the basics of a large range of topics through the courses she took.

While she had taken a variety of classes that require programming knowledge, she has also taken many classes that are strictly on paper and never even required the use of a computer.

Because of this broad range of skills, she went through a long and tedious search to find internships that she was not only interested in, but also ones that she was qualified for.

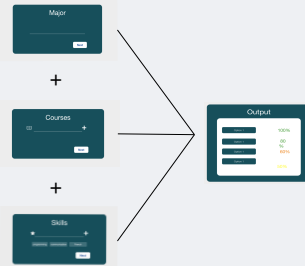


Course to Career aims to expedite this process by finding matching internship opportunities in a single application.

Solution

• Strategy:

Start small and contained. Initial target market: New UCB grads pursuing entry-level position in CS (i.e. software development)



• Using a point system to identify matches in skills b/t user and postings

- The more points the better the match
- Better matches show up first on the list of openings the user receives
- Take a list of the skills from every job from online job boards (make sure there is no overlap)

- Using the courses that the user says they have taken, search for each of those skills in the course descriptions.

- Every time a given skill is found (max found once per course), job gets a "point."

- Find which job has the max points -> that is the best fit job for the user.

- Find top jobs that match user in descending order of points.

• Data usage: Web Scraping & Natural Language Processing

- Course catalog for EECS/CS was scraped.
- Scraped these courses through recording course title and course description.

- Incorporated some natural language processing components to simplify descriptions for matching algorithm.

- Job boards (Freelancer and Dice) were scraped.
- Scraped job boards and record job title and required skills.

Why it is valuable:

Its value is found in its simplicity. Because of the algorithm we chose to implement, students are given jobs with the best match. This reduces the time it takes them elsewhere to manually search for jobs and then apply.

Methods

• We sent survey questions to ask recruiters:

- "What are you looking for when recruiting college students?"
- "Which skills/talents/programs are most necessary when applying for X position?"
- "Describe four to five personality traits the company would like to see in this new hire."

Problem: Getting responses

- Most employers were uncomfortable disclosing these details outside of a job platform context.
- Response time and effort from both sides of communication is too much to have given our limited time scope.

Goal: Establishes measurable features that we could include as data features.

What is your current occupation? Please describe in 1-2 sentences.

Your response:

Please list the industry which best describes the company/startup/customer's focus.

1. Agriculture/Farming
2. Business Services
3. Computer and Technology
4. Education
5. Energy and Utilities
6. Financial Services

• We had brainstormed a 2-way user interface.

- User input required for students and employers so employers could find students as well

Problem: No existing database

- We would need an existing database of student info/classes/skills to pull from to provide student matches to employers.
- Couldn't find a database with this that already existed (and was open to us)
- It was also difficult to source so many people to pool their data into a database.

- Potential ethical issues remain since, in order to create this database, all student participants must consent to their data being stored and used. Without their knowledge and consent, no such database could be created.

Discussion

• Several limitations have been encountered:

- Finding data from what students have already taken these classes, including finding internships via the job sites we scraped jobs from.

- Found it difficult to find a personality test to integrate into the tool and finding data from those that we could actually use.

- Finding job boards that lets you access job postings.

- Finding time to work on this project being full-time students without a mentor and established datasets.

• Some conclusions/accomplishments made:

- We have a successful ranking tool that ranks more objectively than subjectively.

- Solid foundation to a potentially expansive and beneficial service for new graduates.

• Plans for future work:

- Resolve conflicts with integrating personality test

- Expand to more majors

- Expand to beyond UC Berkeley community

- Expand to jobs outside of Bay Area

- Machine learning component where the system would take into account user experience/results from using the product.

