Thinkful: Career planning document

This document will collect and organize your work in the career planning lesson of the prep course. Complete each section after reviewing the relevant assignment in the course material.

Section 1: Explore the landscape

Technology has advanced to the point where we are capable of gaining tremendous insight from the huge amount of data that we discover and create at breakneck speed. But I see coming to responsible and ethical conclusions based on that data as a defining challenge for our moment in history. I want to be a part of that effort, which transcends any meaningless division of people and peoples. While ideally I would like to contribute directly to the social good through my work, I accept that I probably need to work in a more business setting, at least for a while

Regarding data science, I and am at the same time inspired and intimidated by the breadth of skills needed to do it. By nature I am more prone to integration or holism than to analysis and specialization. This can, of course, be paralyzing, and I recognize that being particularly competent in a subset of all the skills that come together in data science is practical and something that I want to achieve. The challenge, then, is to flesh out that subset.

Both the radar challenge and the survey produced similar results in that data engineer is the general specialization I gravitate toward, with strong elements of research and, to a lesser extent, creative. Business clearly comes in last. With the survey in particular, however, so much of my response was speculative or relied on uninformed choices based on very limited understanding. That reinforces the intimidation and feeds the related imposter syndrome.

Nonetheless, the general direction of engineering fits my basic sense that I feel more capable of applying data science to solve problems than I am of identifying appropriate problems. In part, I do not feel competent to evaluate problems and available data in light of particular approaches. That is what I am hoping to learn, and my idea for how for how to learn that is to learn by working with people who know more than I do. Which is not to underplay the role that creativity plays in researching or solving problems. I just feel that I need to see more data science in action and to plug in at a lower level before taking the lead on anything.

Section 2: Job postings

Find five job postings you're very interested in and post them here. Focus on one city. Don't just post the links; job postings have a way of disappearing after a while.

Job 1

- Company name: Children’s Hospital of Philadelphia
- Title: Data Scientist I

- Why did you choose this job? I would prefer to work in a setting where I would be directly contributing to improving the quality of life of people. Can't think of a much better thing to do than working toward treating/curing sick children.
- Link: https://careers.chop.edu/job/Philadelphia-Data-Scientist-I-PA-19146/453210400/

Job 2

- Company name: Rainforest
- Title: Data Science Generalist (San Francisco/remote)
- Why did you choose this job? The company directly applies machine learning and neural nets to making software testing easier to implement and manage. I think that is a great idea, and the company philosophy seems very enlightened. As a young company, and with my experience living in Asia, I might be able to contribute in multiple ways should they grow internationally.
- Link: https://jobs.lever.co/rainforest/e7eab367-cae8-4e7b-8642-e7b66c4c00bb

Job 3

- Company name: United Health
- Title: Data scientist - Medicare & retirement
- Why did you choose this job? The responsibilities seem to fit well with my skills. It seems a bit more oriented toward business analysis/planning, but there also seems to be a lot of opportunity to grow and develop in ways that could contribute to improving health care.
- Link: https://www.careerbuilder.com/job/j3n21k69xmg1223ddct?utm_source=jobsradar.com&e=4&ccsrc=jt&utm_campaign=publisher-delta&siteid=jobsradarfeed_all_other&utm_medium=aggregator&uid=1515262218353udfjc3vn8

Job 4

- Company name: IntegriChain
- Title: Data scientist
- Why did you choose this job? Health care-related, with a lot of data exploration and storytelling, including a focus on patient pain points.
- Link: https://www.linkedin.com/jobs/view/601345038/

Job 5

- Company name: Inspire
- Title: Data engineer
- Why did you choose this job?
- Link: https://www.glassdoor.com/Job/philadelphia-data-scientist-jobs-SRCH_IL.0,12_IC1152672_KO13,27_IP3.htm

Section 3: Your company hitlist

Find five dream companies (whether or not they're hiring data scientists right now) and add them to this hit list. Focus on the same city you did for job postings. Include a sentence about why you added each company.

Company 1

- Company name: Azavea
- Why did you choose this company? A B corporation that aims to apply geospatial technology for positive civic, social, and environmental impact while advancing the state-of-the-art through research. They have a very visual focus in creating tools to help people process and act on data.

Company 2

- Company name: University of Pennsylvania
- Why did you choose this company? A lot of data-based research in the medical field along with great learning opportunities.

Company 3

- Company name: Elsevier
- Why did you choose this company? Large, international company focused on technical empowerment in science and medicine.

Company 4

- Company name: Milkcrate
- Why did you choose this company? A B corporations whose app tracks/promotes community engagement, where creative data science could have a strong impact as the amount of data collected grows.

Company 5

- Company name: Sidecar
- Why did you choose this company? They leverage data & machine learning in supporting online shopping. While not my first pick, I could learn a lot that could serve me well as a future consultant, and they score highly in employee satisfaction.

Section 4: Find your people

Add the data science related events in your area and find LinkedIn profiles for local data scientists working at the kind of job you want.

Local data science events:

- Data Philly

- Philly GraphDB
- Philadelphia Python Users Group

Local data scientist from a company on your hit list:

- Simon Kassel (Azavea)

First or second degree connection in the industry:

- Darrel Silver (Thinkful)

Section 5: Write your own story

Make the work you've done so far concrete.

Describe your ideal job to an industry professional

I use machine learning methods and statistical analysis to evaluate and predict the results of treatments or environmental factor on healthcare outcomes. The machine learning methods, via Python, R, Pandas, etc., include statistics-based algorithms as well as neural networks, but with an emphasis on robustness and interpretability, without sacrificing predictive power.

For robustness, beyond safeguards such as cross-validation, I use techniques that include adding signal noise or dropping neurons in neural nets. The latter also increases interpretability, as does the use of algorithms that produce meaningful feature vector coefficients, such as linear and logistic regression, or using ensemble methods for feature selection.

Describe the same job to a non-technical family member

I program the computer to put data together in different ways and see which way does best at predicting what happens in different cases. To make sure that the predictions will be just as good on new cases, I mess up the data a little and see if the program still works. Since I want to be able to understand why the predictions work, I either use equations that tell you how much each piece of information is worth, or I leave out different pieces of information to see when the predictions get a lot worse, which means that the piece I left out must have been important.

Draft your aspirational professional summary

Using data science to promote the common good. Applying creative reasoning, machine learning tools and statistical analysis to identify hidden relationships and solve problems related to health care and other high-impact social issues.