Team Pandas

5C DataFest 2018

March 25, 2018

Hi, we're Jon, Steven, Max, and Wyatt, and we'd like to introduce you to our friend Susan. Susan is a typical high school senior from California. All her life, she has been giving different answers to the question that all adults ask: "what do you want to be when you grow up?" But now that it's time to really decide, she wants to make an informed decision. That's why she asked us to analyse the job market for her. She gave us some criteria and asked us which industry she should get into.

Susan knows she wants to go to college (her parents will kill her if she doesn't) but she really has no idea what she's interested in studying. She wants to choose a career path that will ensure she can always find a job after college, where she gets paid a high salary. She would also like to know where she is likely to find a job once she decides on an industry. Susan definitely wants to stay in America, and she'd prefer not to stray too far from home, in the California Bay area (though she will follow the money).

To answer her questions, we looked through the Indeed database as well as data from the Bureau of Labor Statistics. We merged the two datasets together by lumping the high-resolution job categories from Indeed into the categories that the Bureau uses. For example, Indeed differentiates between different types of engineers, but we combined all engineering data.

From this, we boiled the jobs down to 22 categories, and we plotted those categories against the number of postings in that category on Indeed, the expected 10 year growth of that industry, and the median wages. The first two variables give Susan an idea of how likely she is to find a job and how likely it is that she won't get laid off or that she'll be able for find more jobs down the road. Again, one of her criterium was to have a high salary, so we made sure to plot that as well. We then plotted all of these variables on a 3D scatter plot so we could visualize which job fits all of these criteria the best. We did a little math in the background to normalize all the dimensions and find the optimal point, which is the one circled on the graph.

And what do you know? The Computer Science & Mathematics category fits our criteria the best! So let's take a look at where she might live and work.

This heat map shows where all the Computer Science & Mathematics jobs posted to Indeed are located. Darker regions indicate more jobs. From the previous graphs, we know the median wage for the Computer Science & Math category is about $82k, but as we can see, the areas where the most jobs are

are also where the wages are highest. Places like Wyoming bring the average wage down, but they also have a low cost of living. Computer Science jobs are common all across the country, but it is an industry where you're more likely to find work in large cities, such as LA or NY (as well as the Silicon Valley). So it looks like Susan can stay close to home after all! Though, if she changes her mind about that while she's at shcool, she can always choose to live somewhere else.

In summary, based on Susan's criteria of a high salary and good job prospects, she should study Computer Science or Mathematics. She can expect to make $82k or more. There are currently a lot of jobs available in this area, and she can expect there to be an increased amount of jobs by the time she graduates. Moreover, now Susan has all the information she needs to make an informed decisoin about her life.