Lab 2

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Visualization

Education Level vs Wages
Foreigners from China

Education Level vs Wages
Foreigners from India
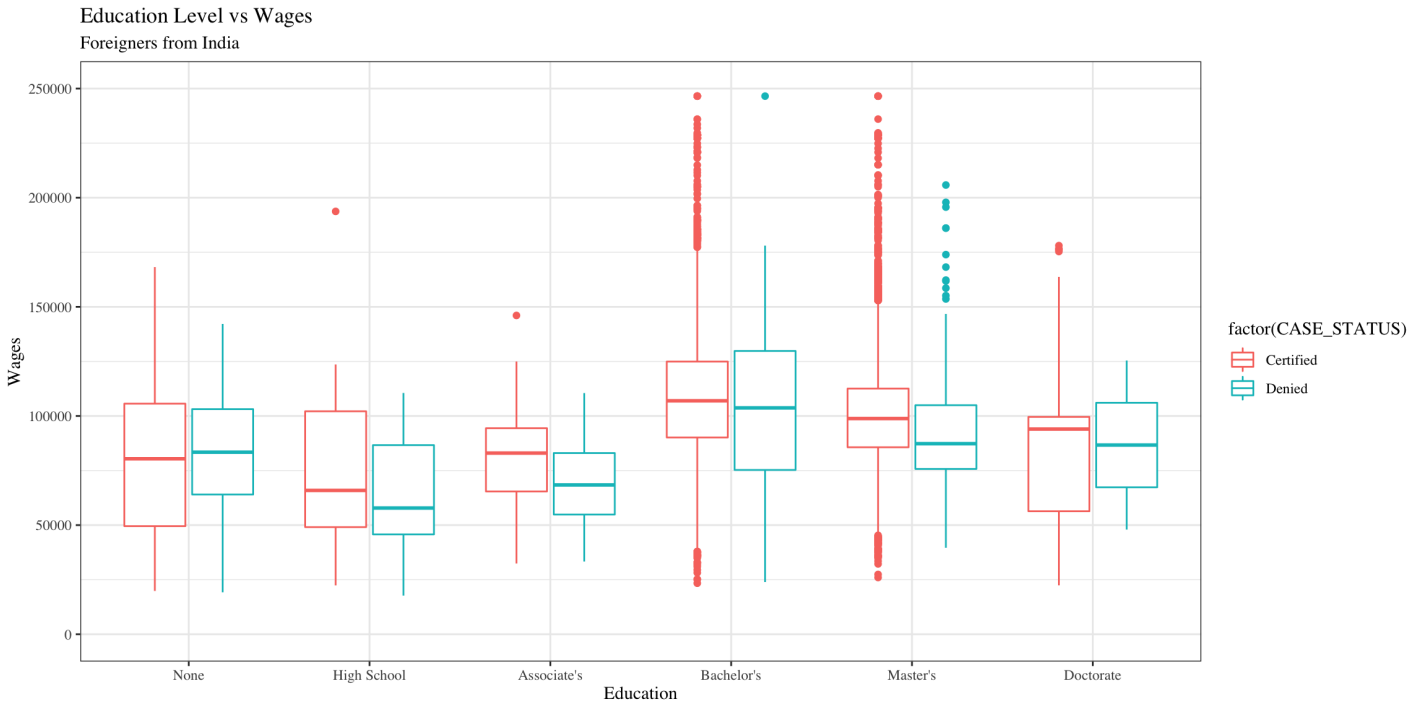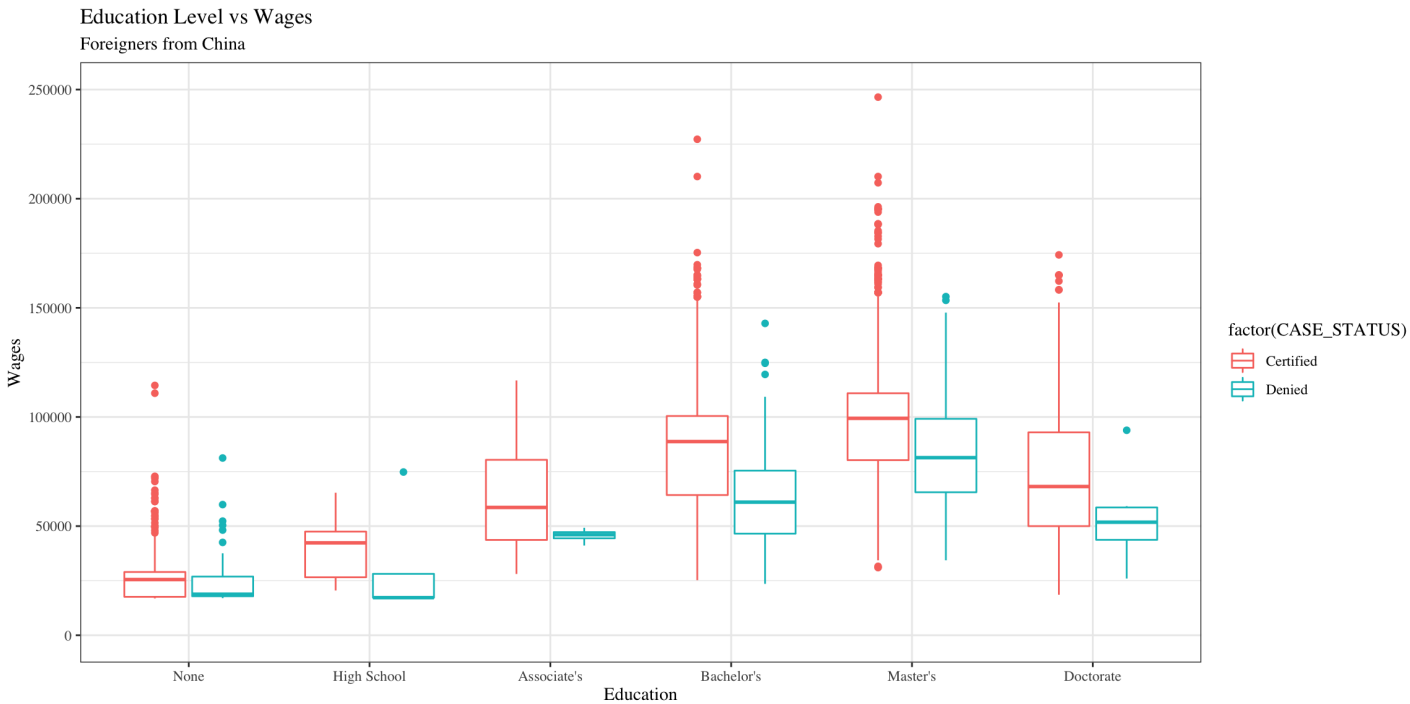
The Brief Write-Up

I am analyzing how wage changes as people's education level increases and how higher education level relates to a higher chance that the application will be certified. My hypothesis is that as a person's education level increases, the wage that peron gets also increases, and is more likely to be certified.

My visualization illustrates the relationship between education level and the prevailing wages for the job being requested for permanent labor certification. In addition, for each education level, I have separated them into status groups of "Certified"-red and "Denied"-blue. The first plot includes only foreigners from China while the second plot only include foreigners from India. In my graphic, 5 variables were used. They are JOB_INFO_EDUCATION, PW_AMOUNT_9089, CASE_STATUS (Certified, Denied), COUNTRY_OF_CITIZENSHIP.

I first created a subset of the data consisting of only these variables. Then the data size was again slightyly reduced due to the NA's. Thus, I removed the rows containing NA's for my choices of variables. I also removed unneccessary factors of the variable CASE_STATUS including "Withdrawn" and "Certified-expired". Then I extracted the data set containing these variables with citizenship of China and India in two plots respectively. Then, I ordered the factors on the x-axis in increasing order of education level to better show the relationship. Comparing the two plots, we can clearly see the differences in the chance of applications being certified in each country and how degrees affect wages of those foreign workers.

As we can see from the graph, foreigners from India on average are offered higher wages than workers from China, they are also more likely to be certified. It is also clear that employees with eductaion level above Associate's will have higher income.It seems more importantly so for the Chinese as the employees with none, high school, or Associate's education are at the bottom of the payment range. Thus, it is shown that having a higher education can be very helpful in getting a higher paying job.

The Open Ended Questions

If I could add any additional information, I would add the age of each case applicant and the number of months of pervious experience with the column name JOB_INFO_AGE and JOB_INFO_PAST_EXPERIENCE, respectively. We might be able to find this data through collection of basic personal information of the workers.
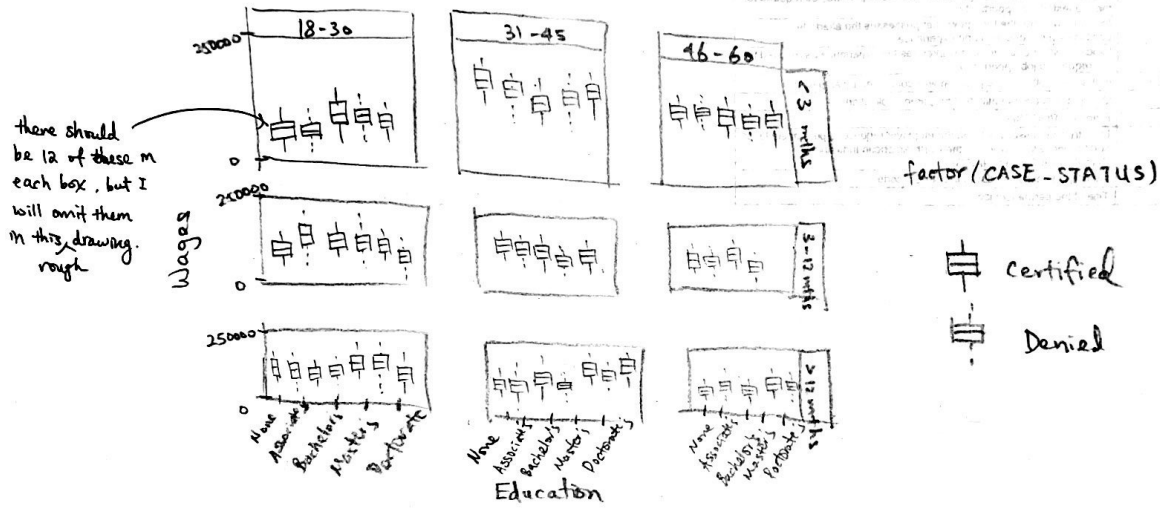
Suppose I really had these data, then I would be able to answer additional questions that I could not have answered such as: 1. According to the data, does worker's salary generally increases as they ages? 2. How much impact does past working experience in the same field has on the wages that will be offered?
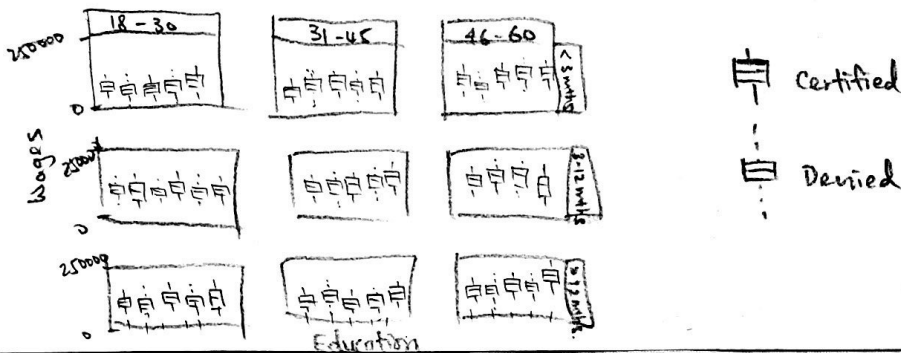
JOB-INFO-AGE: 3 groups ⎧ 18 - 30   JOB-INFO-PAST.EXP ⎧ < 3 mths
                        ⎨ 31 - 45   ⎨ 3 - 12 mths
                        ⎩ 46 - 60   ⎩ > 12 mths

Education vs Wages

Foreigners from China

there should
be 12 of these m
each box, but I
will omit them
m this drawing.
rough

factor(CASE-STATUS)

☐ Certified

☐ Denied

Foreigners from India

☐ Certified

☐ Denied

Sketch Graph