

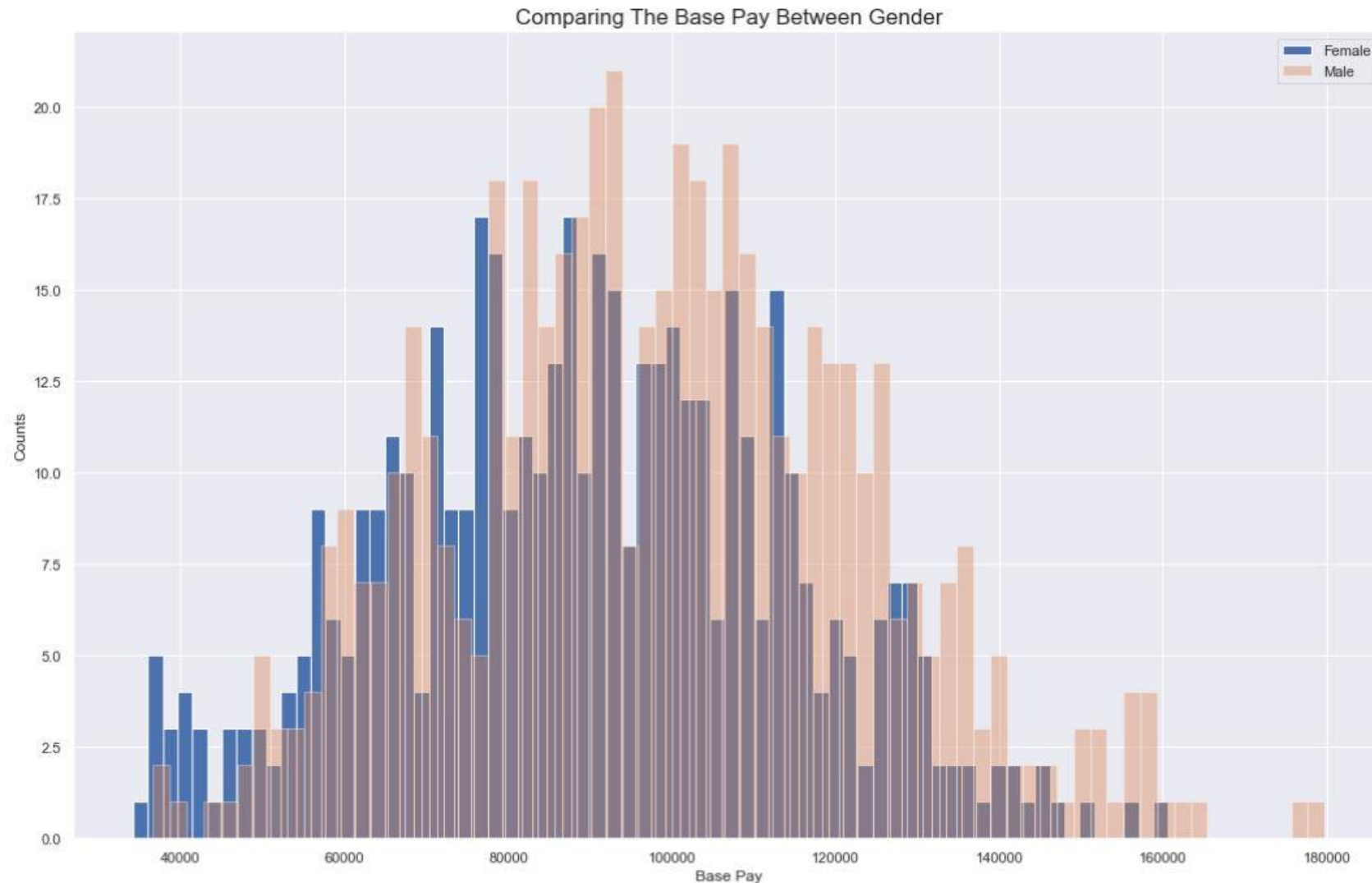
THE GENDER PAY GAP

<https://www.kaggle.com/nilimajauhari/glassdoor-analyze-gender-pay-gap>

Agenda:

I am a HR consultant working for a 5000 strong public relations company. I received a call from the head of the employee's union presenting woman's rights in the company to discuss about gender pay gap.....or rather complaining....

Why is there a gender pay gap in our company?...Time for EDA!



- The gender pay gap is 8.46% or \$8300/year
- The P Value using the mean difference (between Female basepay and Male basepay) is <0.05 indicating that the pay gap is significant.
- Can we conclude the Gender Pay Gap is really 8.46%?
- No lah! We need to do EDA first!

Calm down, could you tell me more about yourselves?
May be we can do a more accurate Gender Pay Gap analysis?



the
age
41



Amy



the
age
49



Connie



the
age
50



Sara

This is your gender pay gap.....

3.8%



the
age
41



Amy

-31.7%



the
age
49



Connie

1.6%

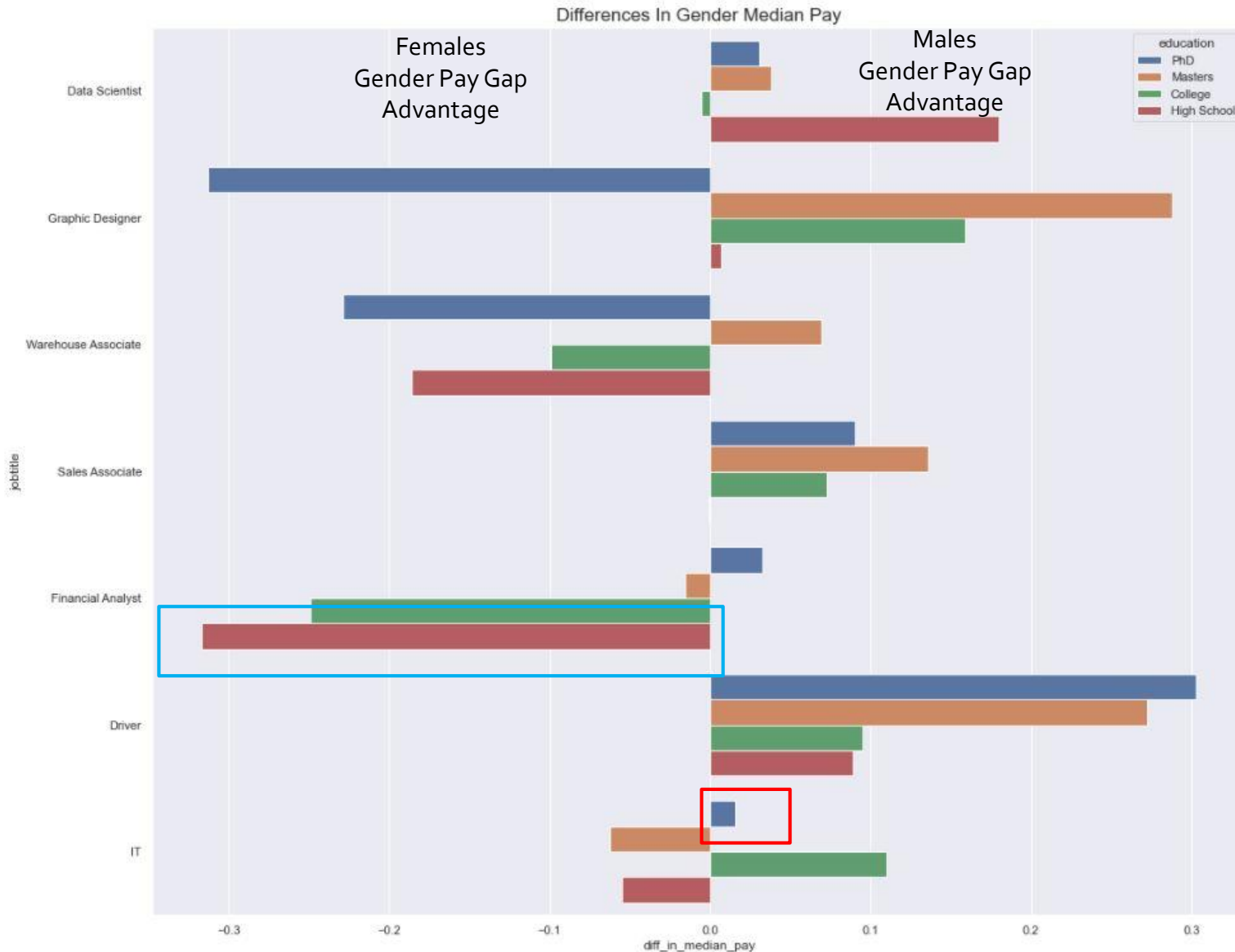


the
age
50



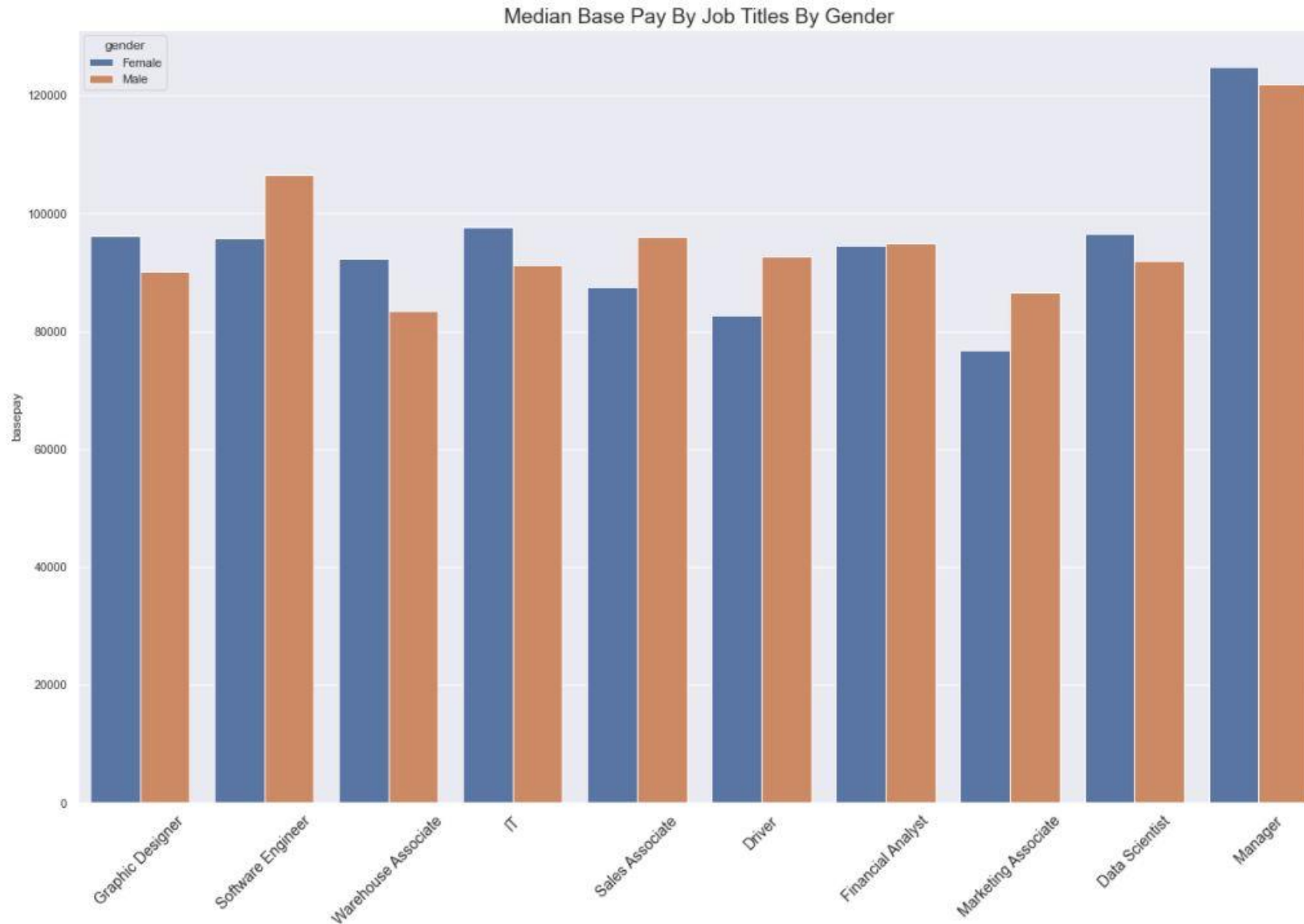
Sara

To See The Overall Picture....



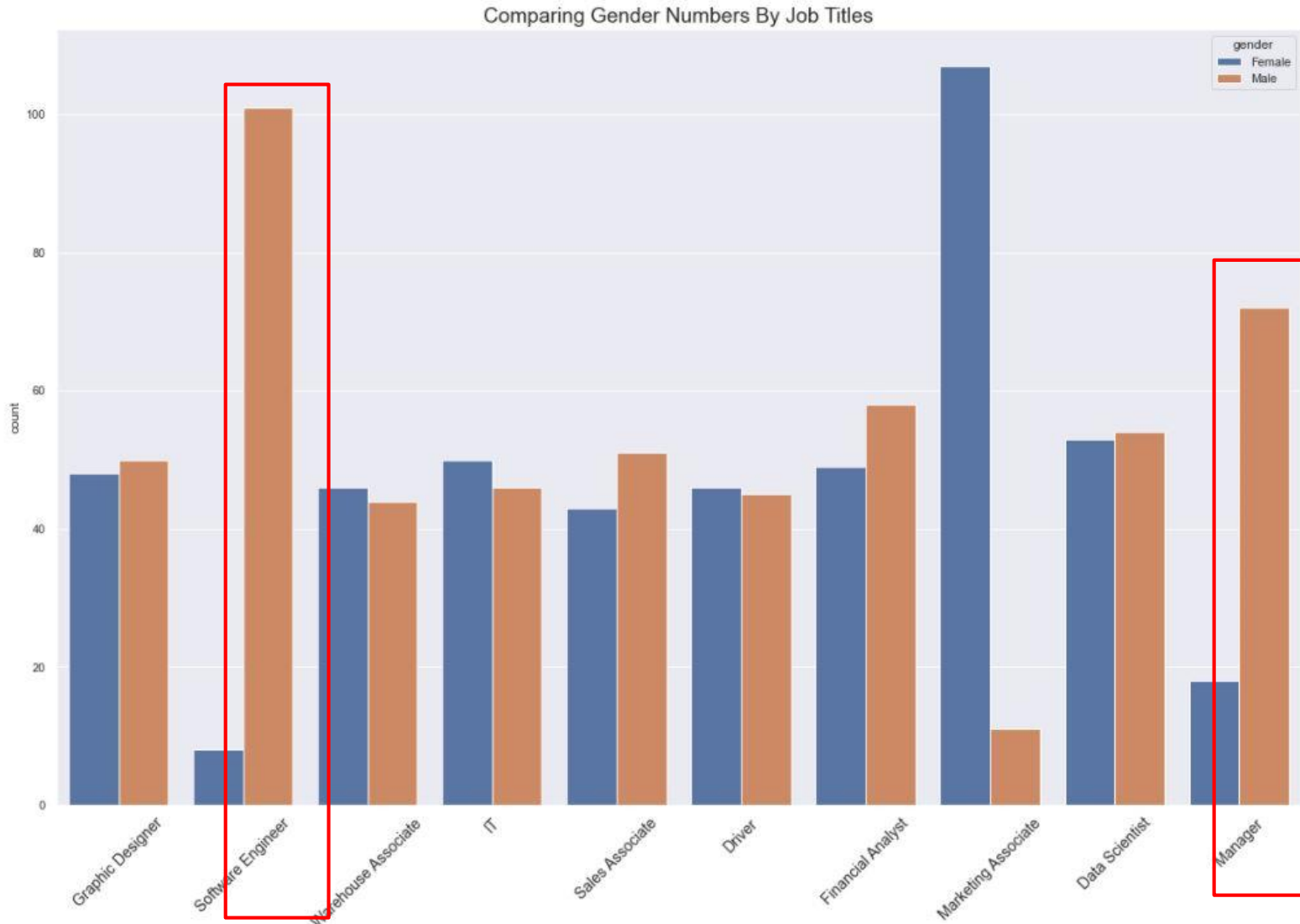
- Gender pay gap depends on education and job titles...
- For Connie who is a Financial Analyst will have a 31.7% Gender Pay Gap advantage if you have a High School education. (Red Box)
- Or Sara who works in IT will have a 1.6% Gender Pay Gap disadvantage if they have a college degree etc. (Blue Box)
- Therefore if we compare Gender Pay **within similar category**, such as education, we will each arrive at different Gender Pay Gaps?

Absolutely! Besides this, different job titles have different pay scales depending on Gender as well.



- You can see that there are a fair mixture of gender pay gaps for each job category
- You lose some you win some....
- So where did that 8.4% Gender Pay Gap come from?

Some high paying jobs are dominated by man.....that's why



- The 2 highest paying jobs
 - Manager
 - Software Engineer.....are dominated by man (Red Box).
- this scales up the median pay for Males..and further widening the Gender Pay Gap.
- Therefore we should really look beneath the surface before making a conclusion...correct?

I can see clearer now, so after some adjustments, the Gender Pay Gap should be around....3.4%?

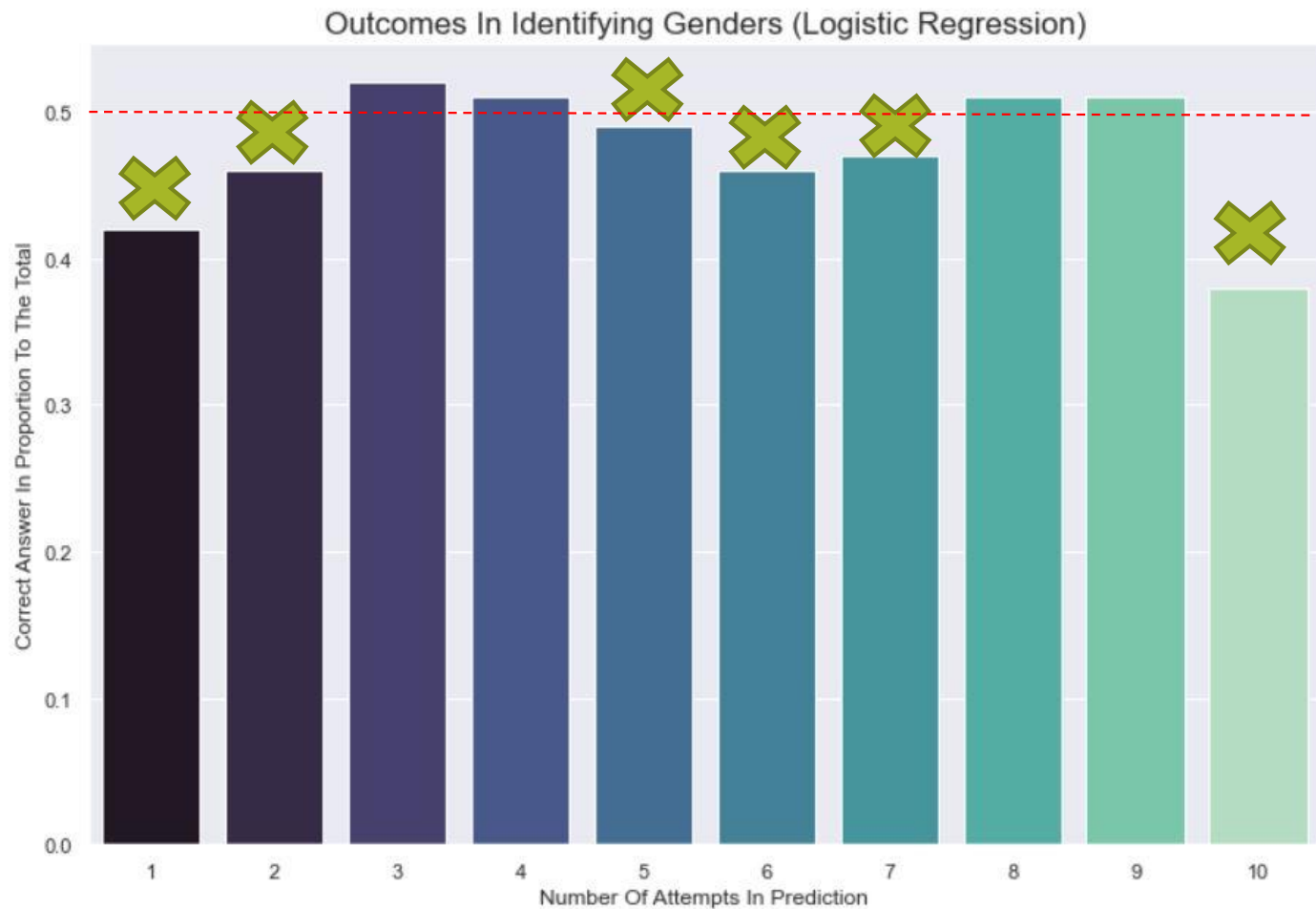
That's correct my dear! So clever....But just to be sure there is no significant biasness,
let's let AI do the conclusion!



Alright. Bring it on!
Get set, GO!!!

- We shall play a game, we will train the computer to learn about relationships between **base pay and gender**, and after that try to identify gender. We will also include education, age and job titles.
- If the computer identifies correctly most of the time (> 5 out of 10 correct attempts), you win! Else, I win! Ok?

RESULT : In 6 out of 10 attempts
the computer identifies genders **incorrectly**.



X 6 incorrect attempts!

Criteria for correct attempts,
Success rates must be > 0.5 .

Since there are 6 **incorrect** attempts
to identify the correct genders, we
conclude there are insufficient
evident to prove that the **gender pay
gap is significant!**

THANK YOU!!!