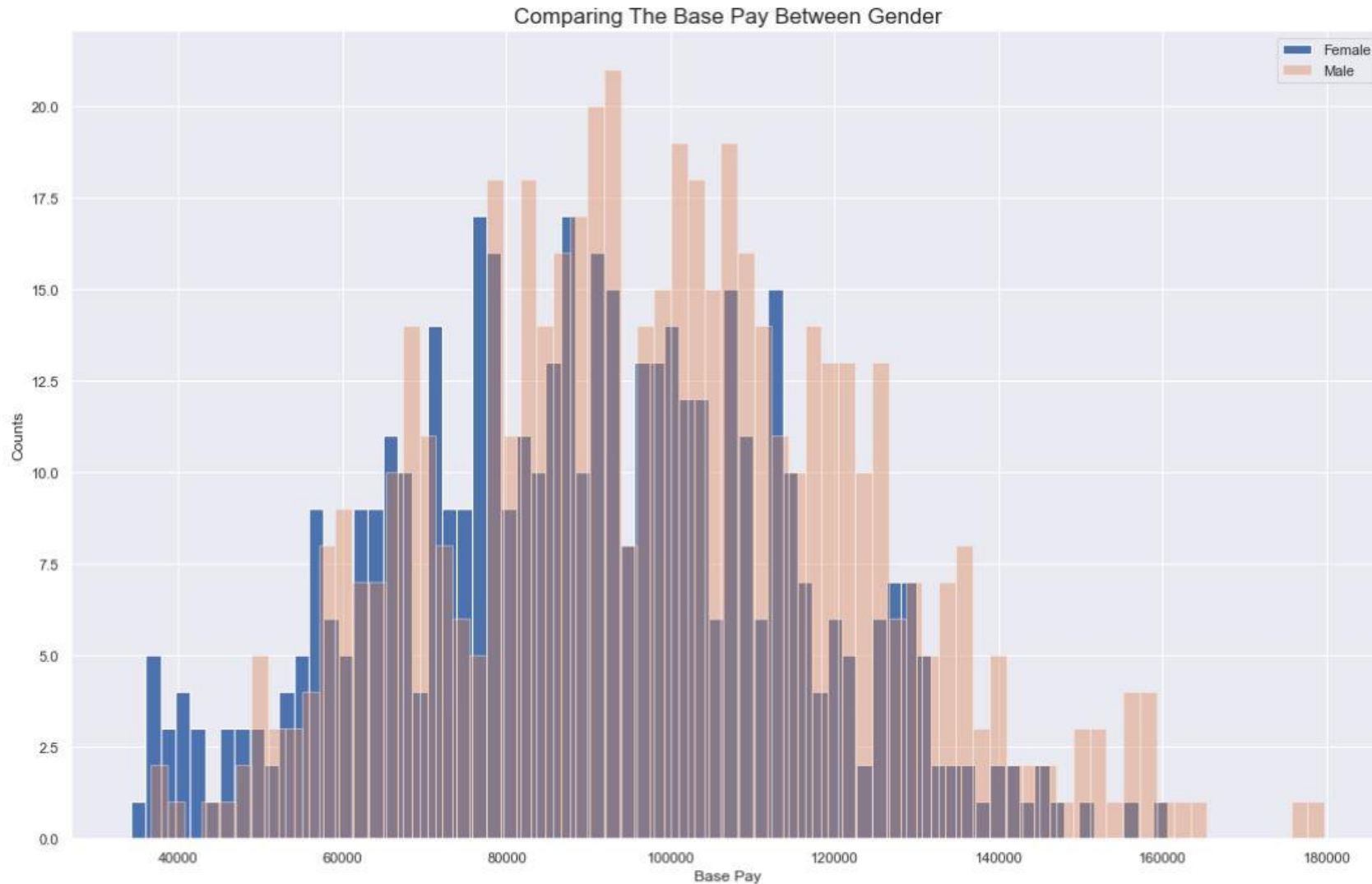


The Gender Pay Gap

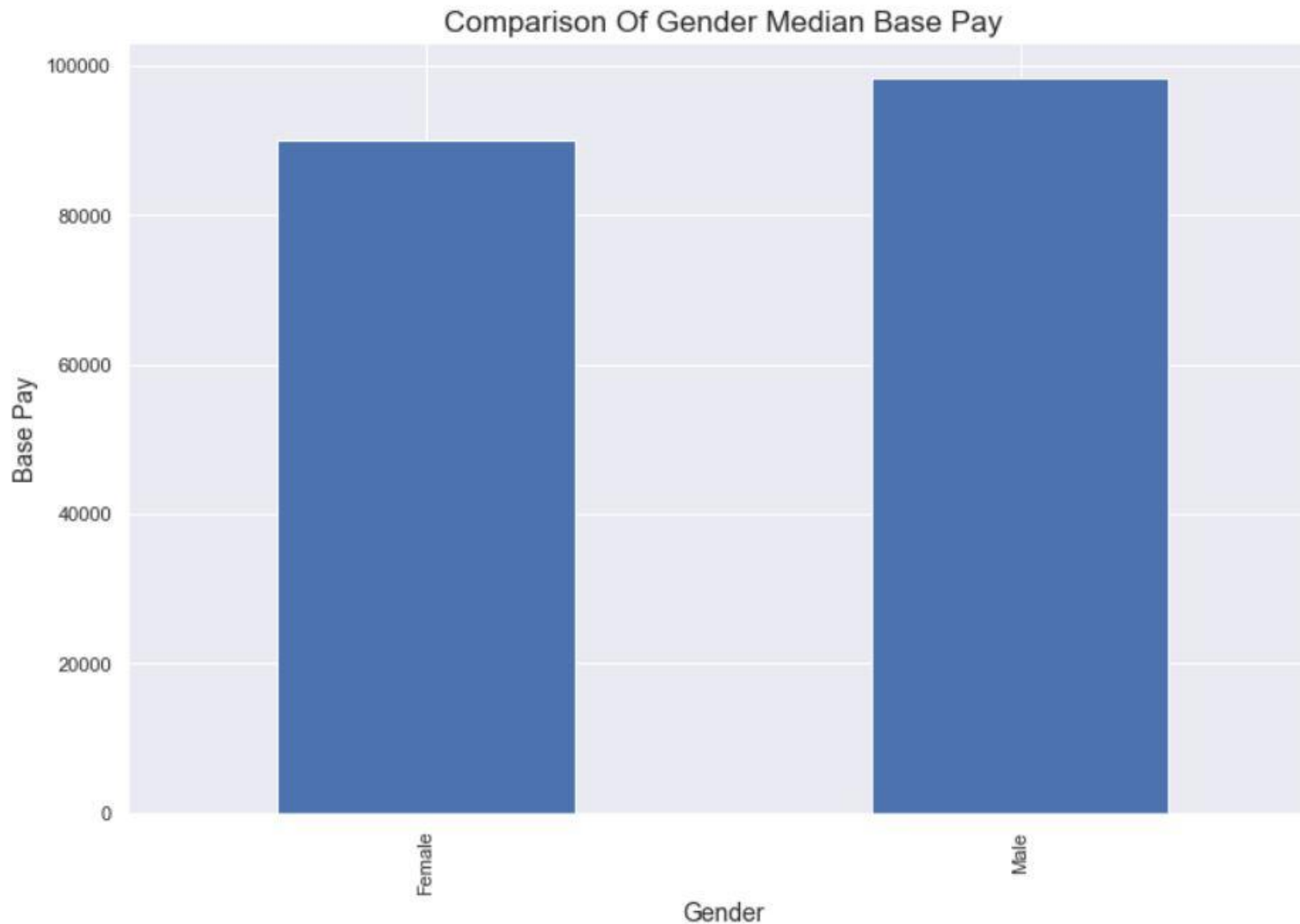
<https://www.kaggle.com/nilimajauhari/glassdoor-analyze-gender-pay-gap>

Why is there a gender pay gap in our company?



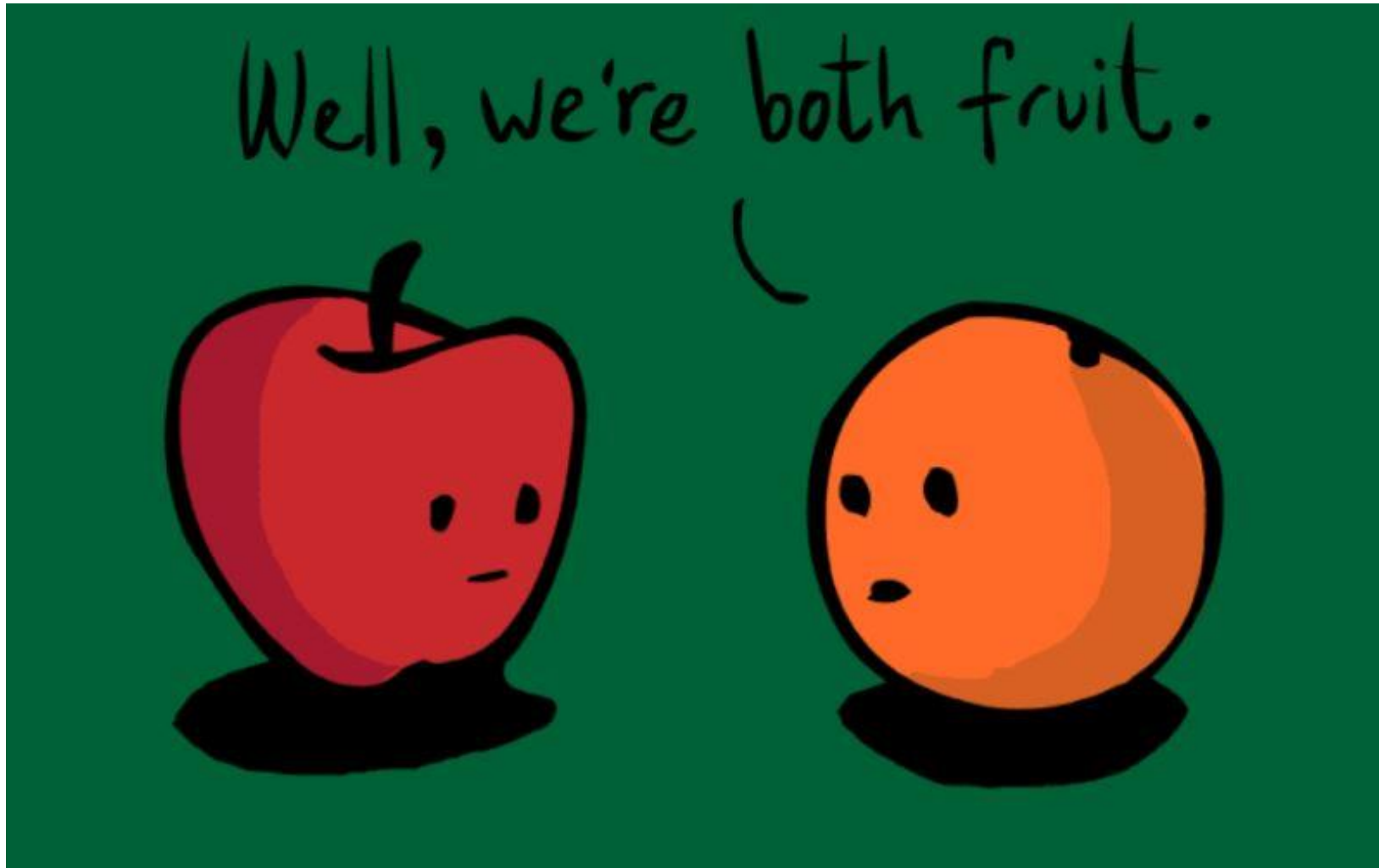
- The median gap is 8.5% or \$8300/year
- The P Value using the mean difference is <0.05 which says that the gap is significant and cannot be dismissed.
- Can we conclude the gender pay gap really exist?

Not just yet!



- Although this comparison looks straight forward and convincing, it does not address why there is a gap and where it exist!
- Before we assume, we need to do some Exploratory Data Analysis!
- I am listening.....

Wait A Minute!



- We need to compare apples with apples
- Do an experiment.
- What's your job title, age and education background?
- Let's compare whether there is a gender gap according to these terms?
- **Sure. Let's do the comparison this way!**

Chill Out!



the
age⁴¹



- We need to compare apples with apples
- Do an experiment.
- What's your job title, age and education background?
- Let's compare whether there is a gender gap in this context?
- **Sure. Let's do the comparison this way!**

The gender pay gap is 3.8%.... Not 8.5%!!!



- The gender pay gap is 3.8%
- Not the 8.5% we earlier thought!
- Let's compare another one shall we?

Chill Out!

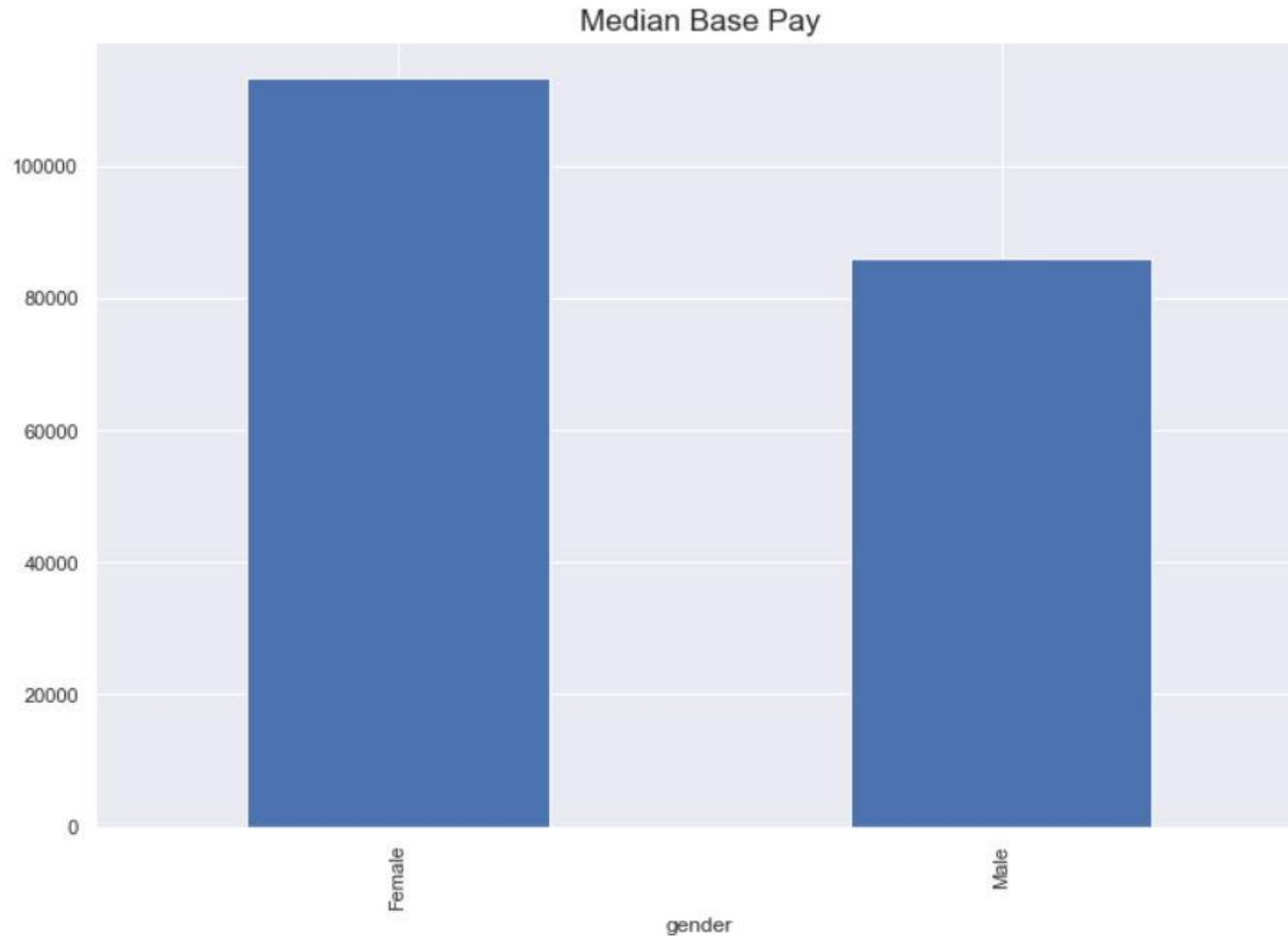


the
age⁴⁹



- We need to compare apples with apples
- Do an experiment.
- What's your job title, age and education background?
- Let's compare whether there is a gender gap in this context?
- **Sure. Let's do the comparison this way!**

The gender pay gap is -31.7%.... Not 8.5%!!!



- The gender pay gap is -31.7%
- Female is better off than males!
- Not the 8.5% we earlier thought!
- Let's compare another one shall we?

I work in the IT dept, with PhD and 50 year old

- What about me?



the
age⁵⁰

The gender pay gap is 1.6%.... Not 8.5%!!!



- The gender pay gap is 1.6%
- Female is slightly below males!
- Not the 8.5% we earlier thought!
- Can you show us the overall picture?

The Overall Picture



- There are mix results across all occupations and education background.
- Woman are ahead for negative values!
- Man are ahead for positive values!
- Can you show us an even a more simpler picture?

The Overall Picture



- There are mix results across all occupations and education background.
- Woman are ahead for negative values!
- Man are ahead for positive values!
- Can you show us an even a more simpler picture?

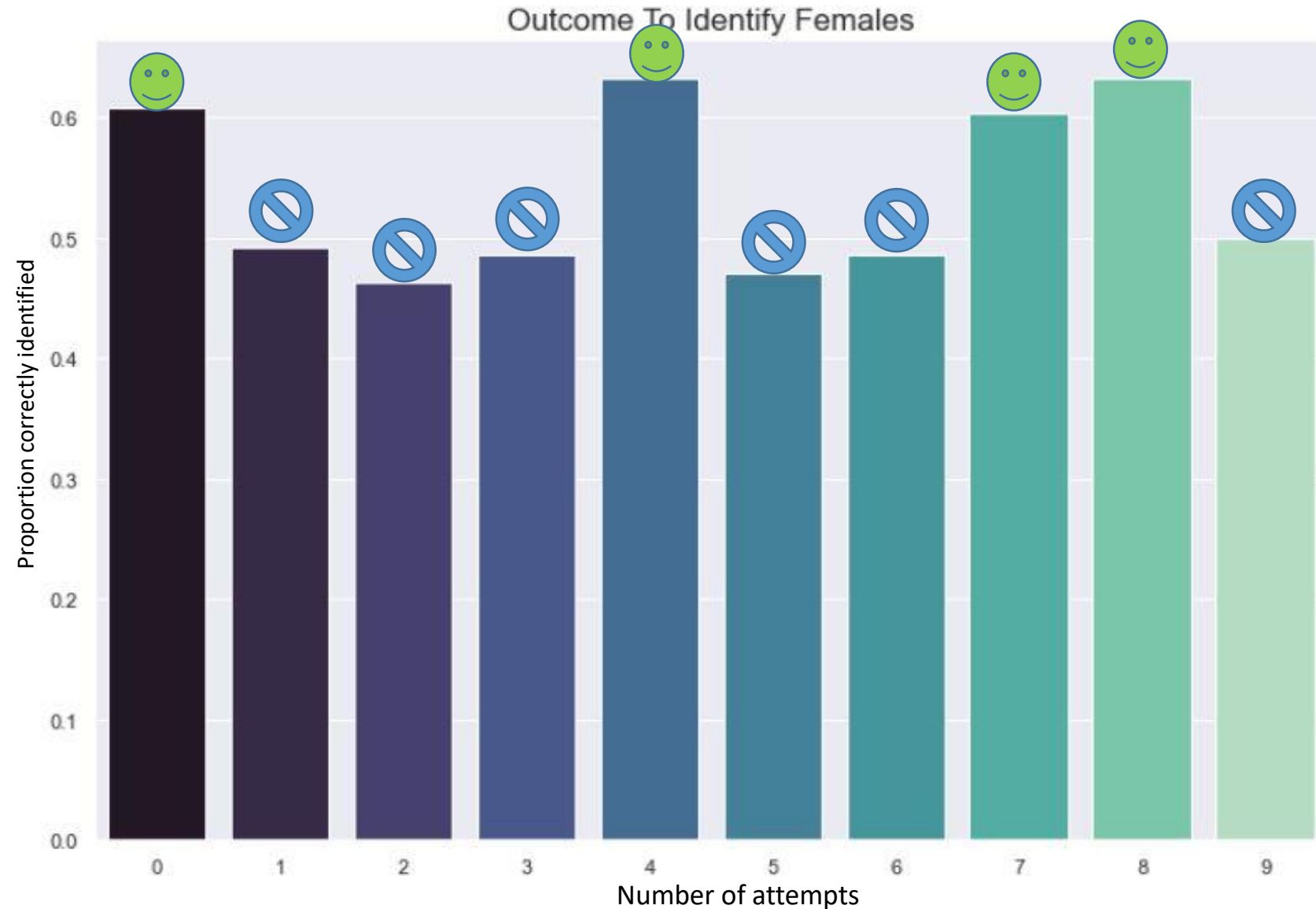
Let's Go!



LET'S PLAY A GAME!

- Let's play a game, we will train the machine to identify females based on **job titles, base pay, education and seniority**. If the machine gets it right most of the time, you win. Meaning, there are patterns and biases which enables the machine to predict correctly.
- If the machine fails to identify most of the time, I win! Ok?
- There are 10 attempts in total.

No Significant Gender Pay Gap!



Correct attempt
to identify female
must be > 0.5 .



Incorrect attempt
to identify female
must be < 0.5

There are 6 incorrect
attempts. Therefore
there are no significant
gender pay gap.