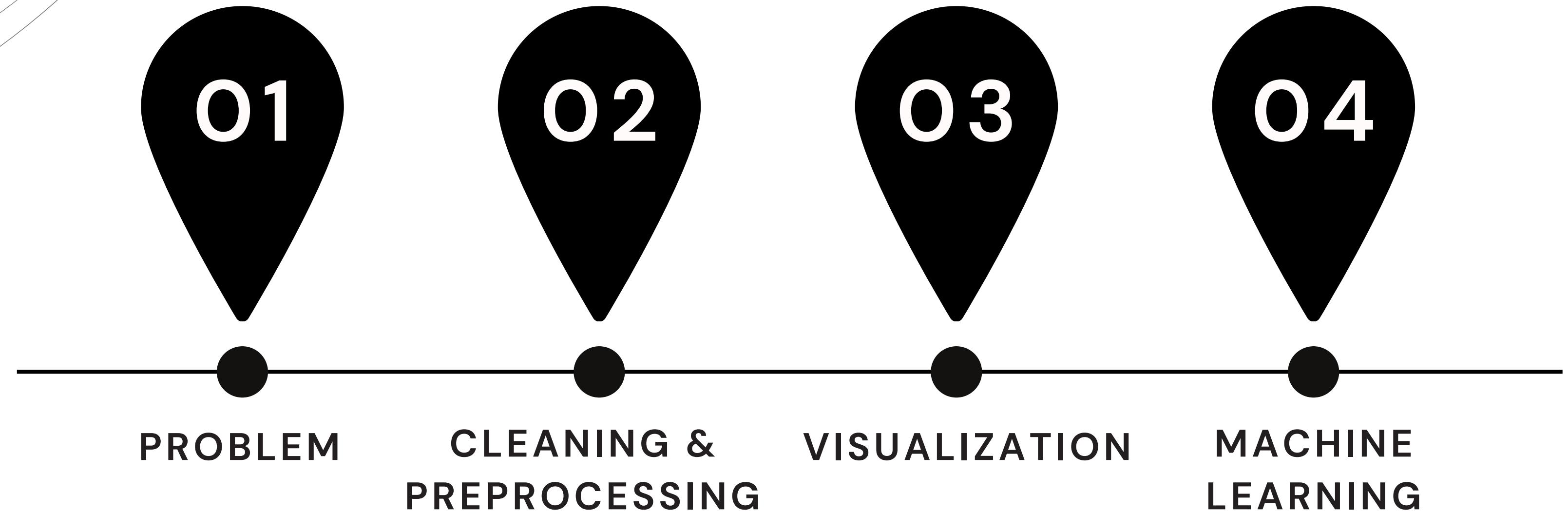
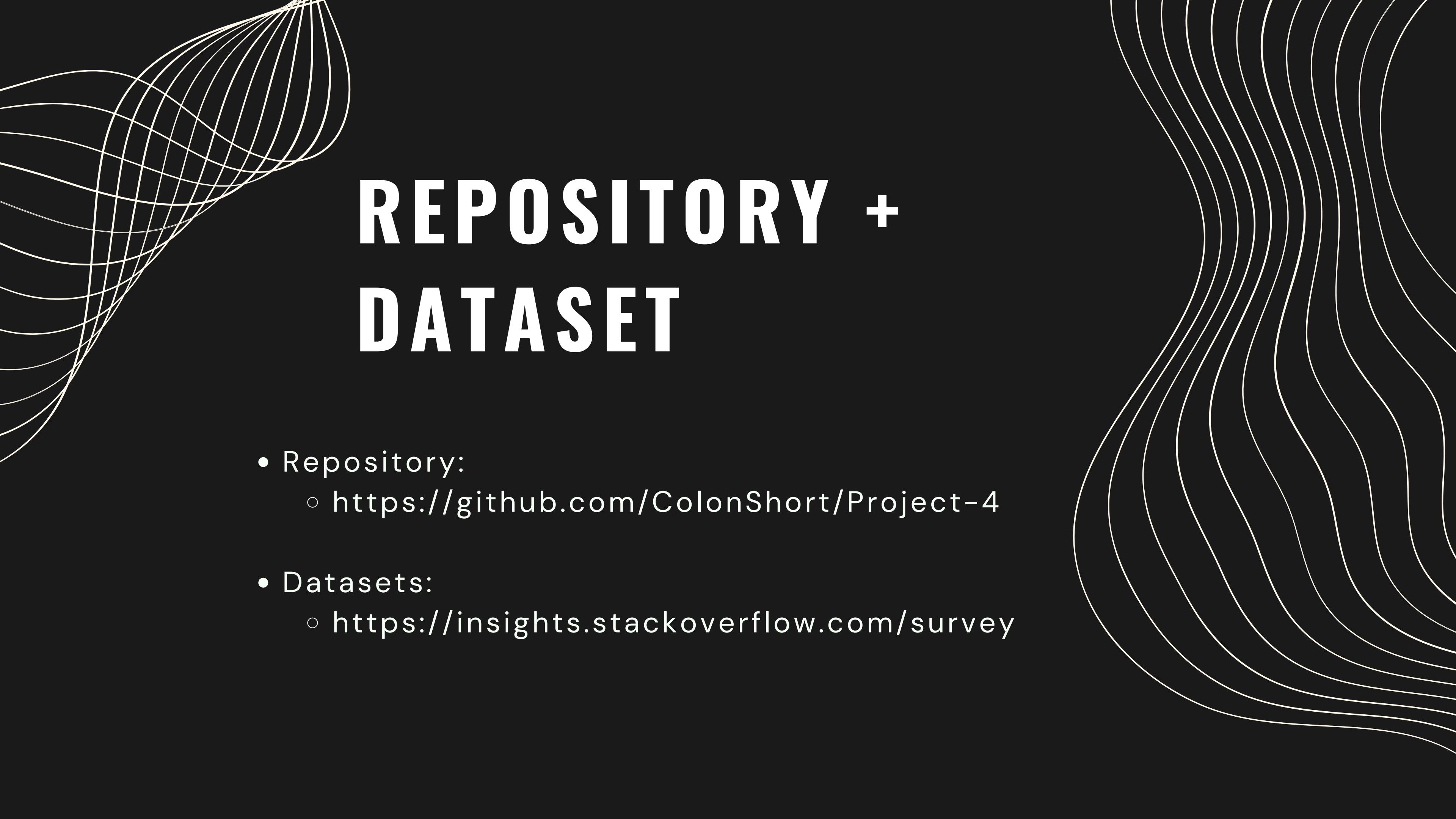


TECH SALARY ANALYSIS

**TEAM GREYJOY: ARTHI, COLE, COLTON, CYDNEY,
DOUG, KELLY, JULIANA, ROD, UZMA**

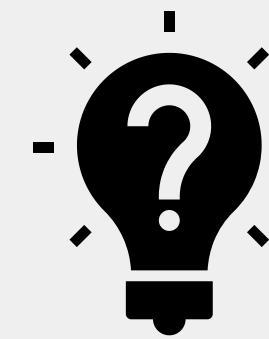




REPOSITORY + DATASET

- Repository:
 - <https://github.com/ColonShort/Project-4>
- Datasets:
 - <https://insights.stackoverflow.com/survey>

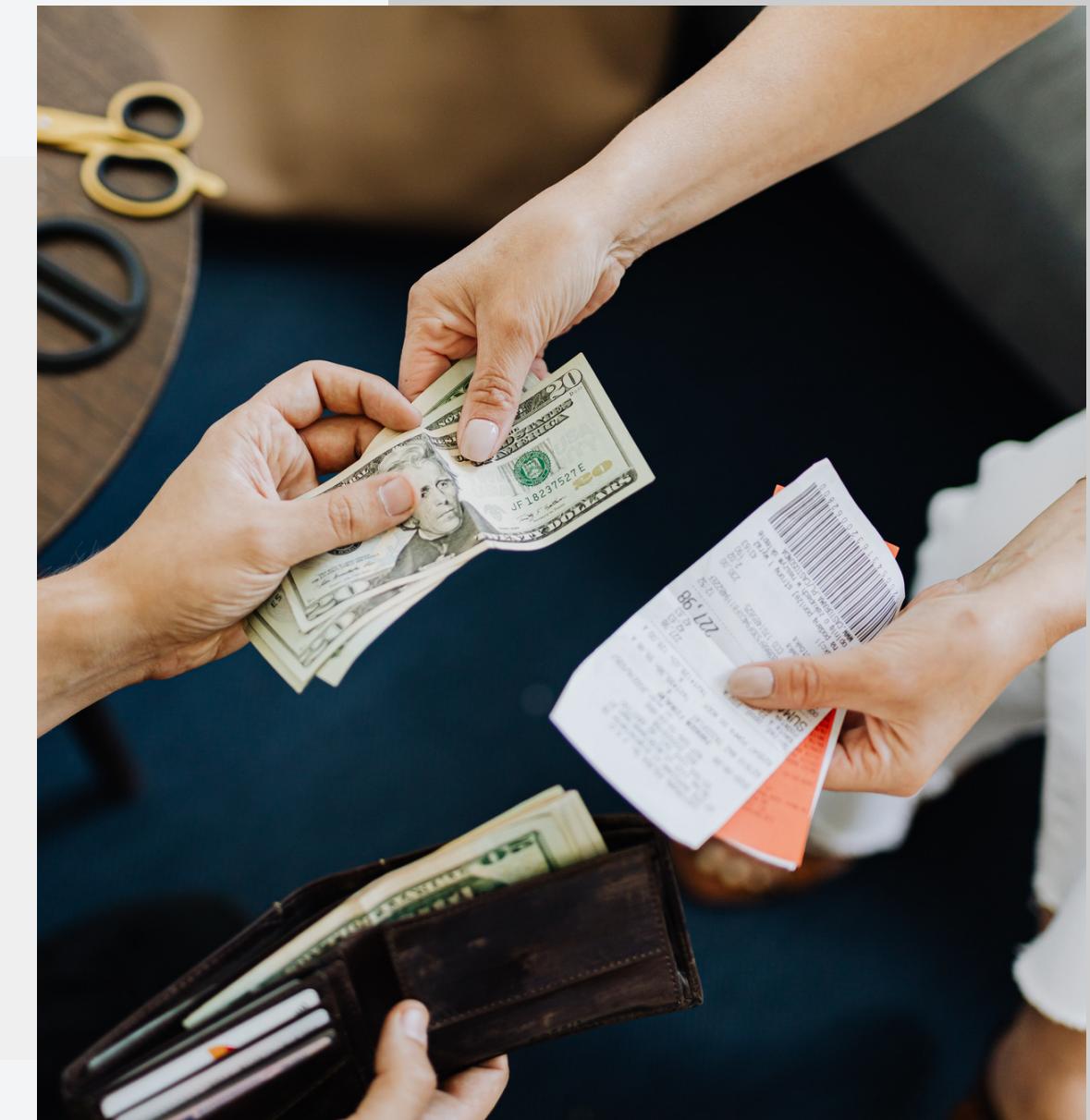
PROBLEM TO SOLVE



The gender pay gap in tech roles throughout the world.

We will examine these key data points:

- Gender
- Languages
- Salary
- Continent
- Education Level
- Experience

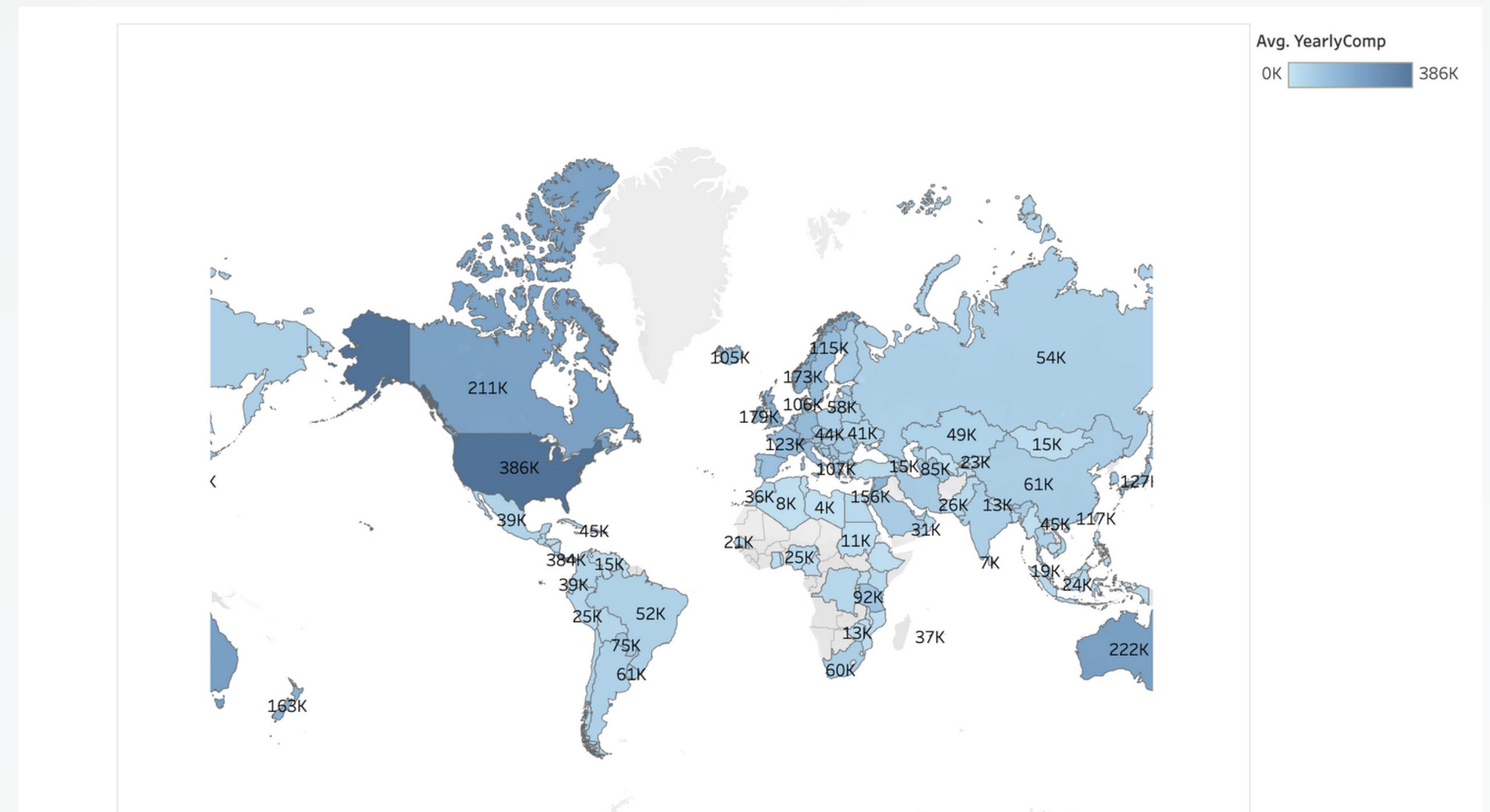


DATA CLEANING

- Dropped unnecessary columns
- Dropped null values
- Changed countries to continents
- Updated data types
- Kept entries with only one answer for employment and gender columns
- Used an API to get currency conversion rates
 - Converted all salaries to USD and annual
 - Assumed 12 working months and 50 working weeks
- Cleaned dev type and language columns by dividing survey results with multiple options selected as separate columns
- Encoded non-numeric data
- Dropped all reports of salary over \$1 million to eliminate outliers

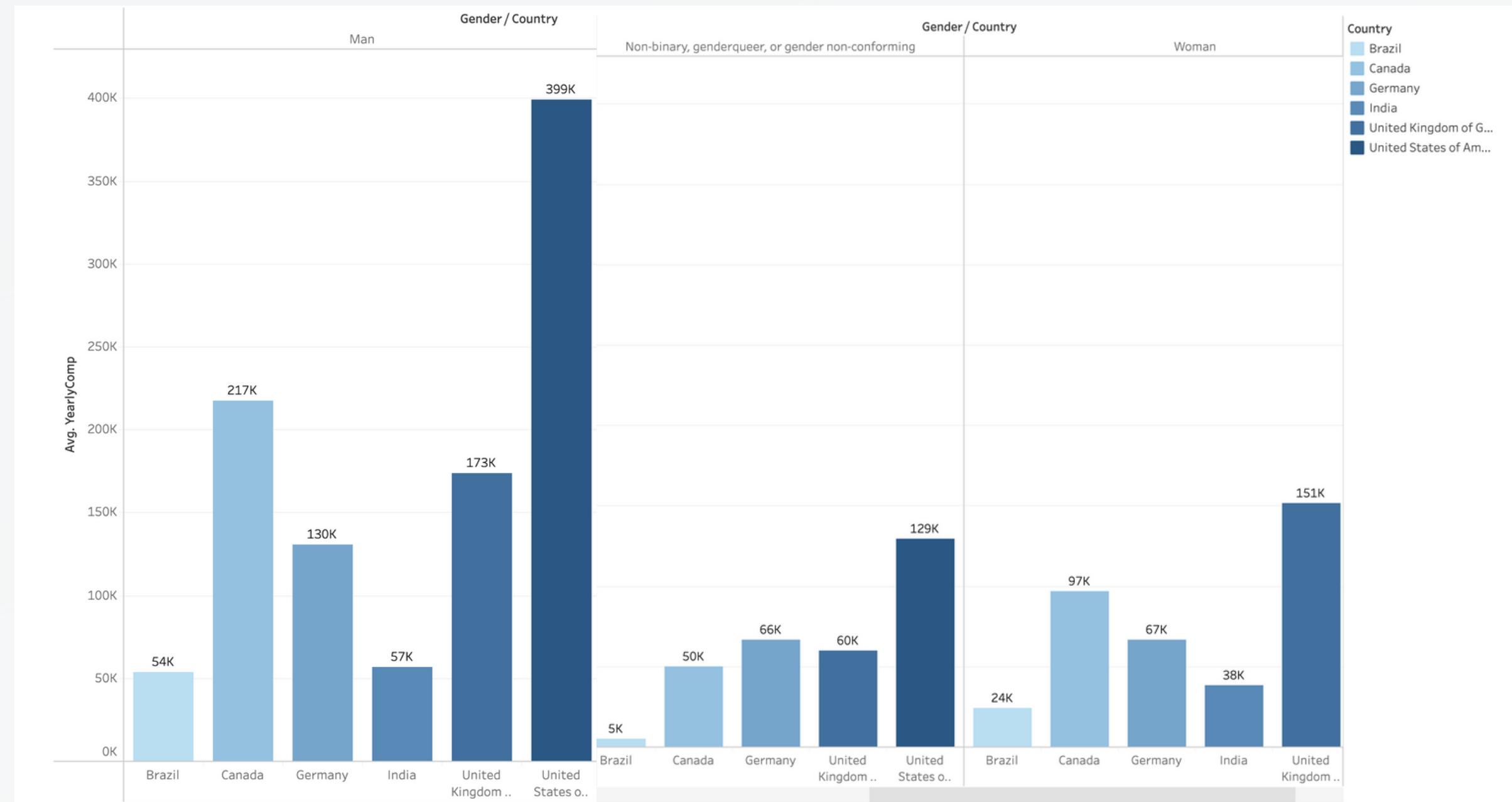
TABLEAU

AVERAGE SALARIES BY COUNTRY



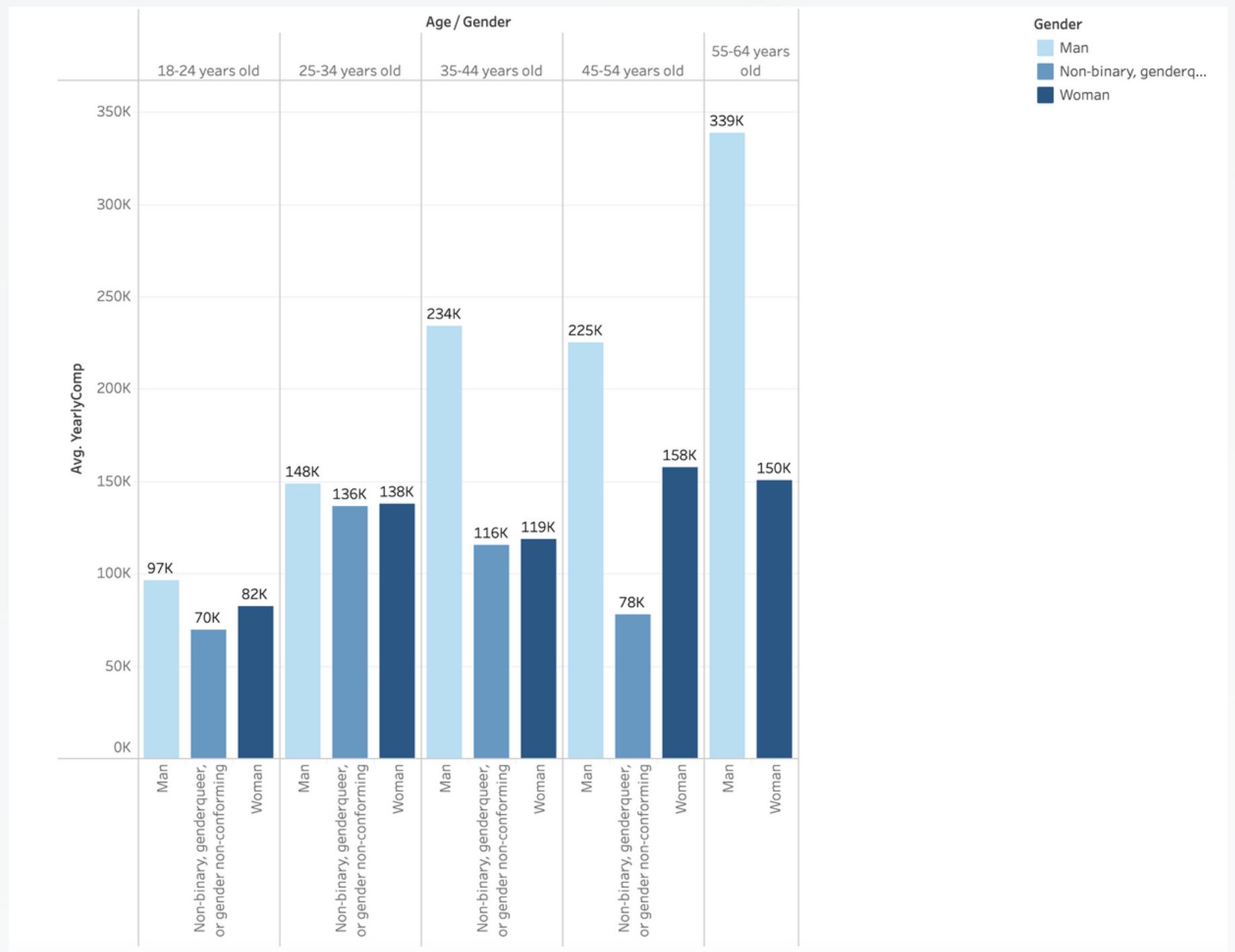
TABLEAU

GENDER COMPARISON



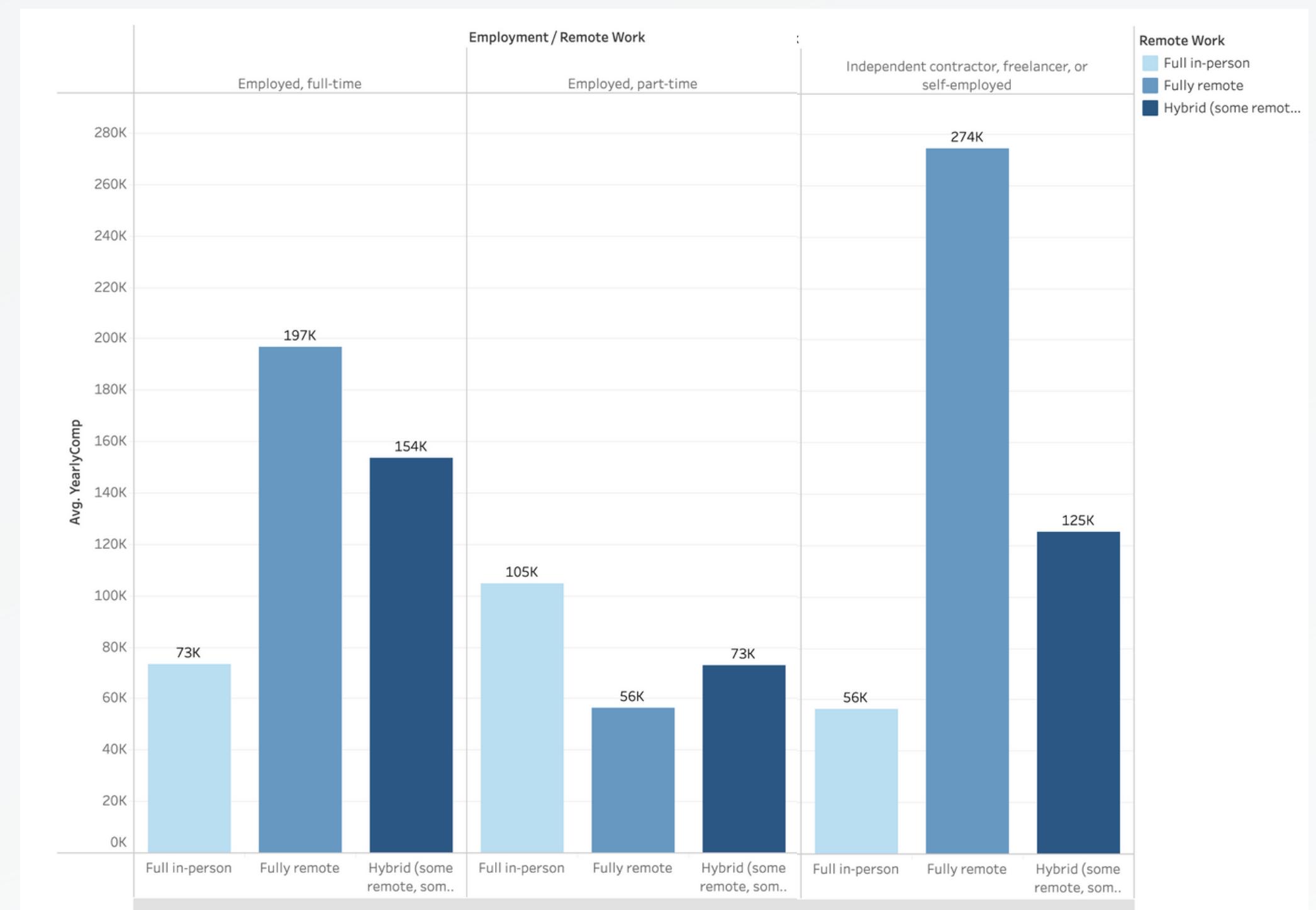
TABLEAU

AVG. SALARY BY AGE & GENDER WORLDWIDE



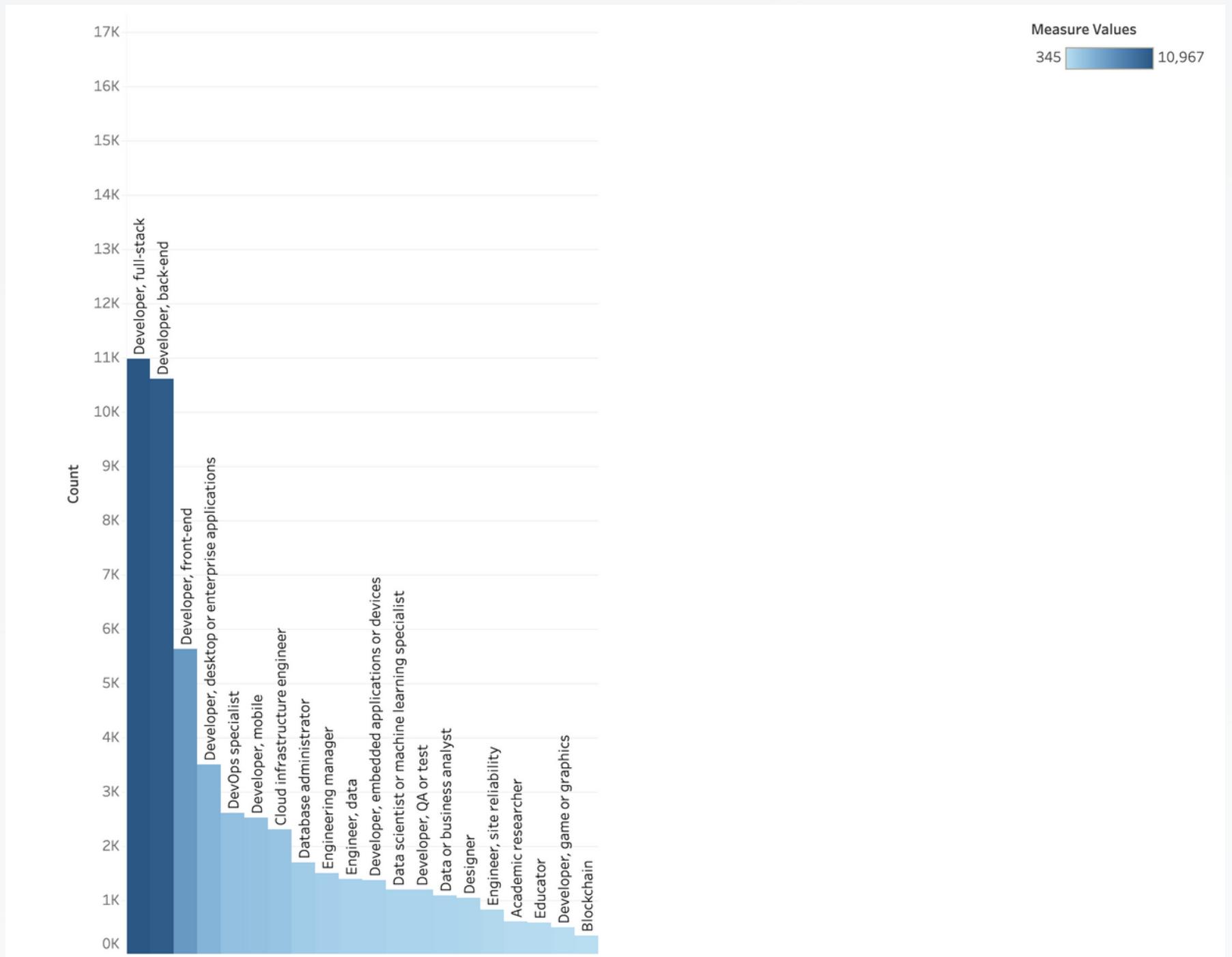
TABLEAU

REMOTE WORK



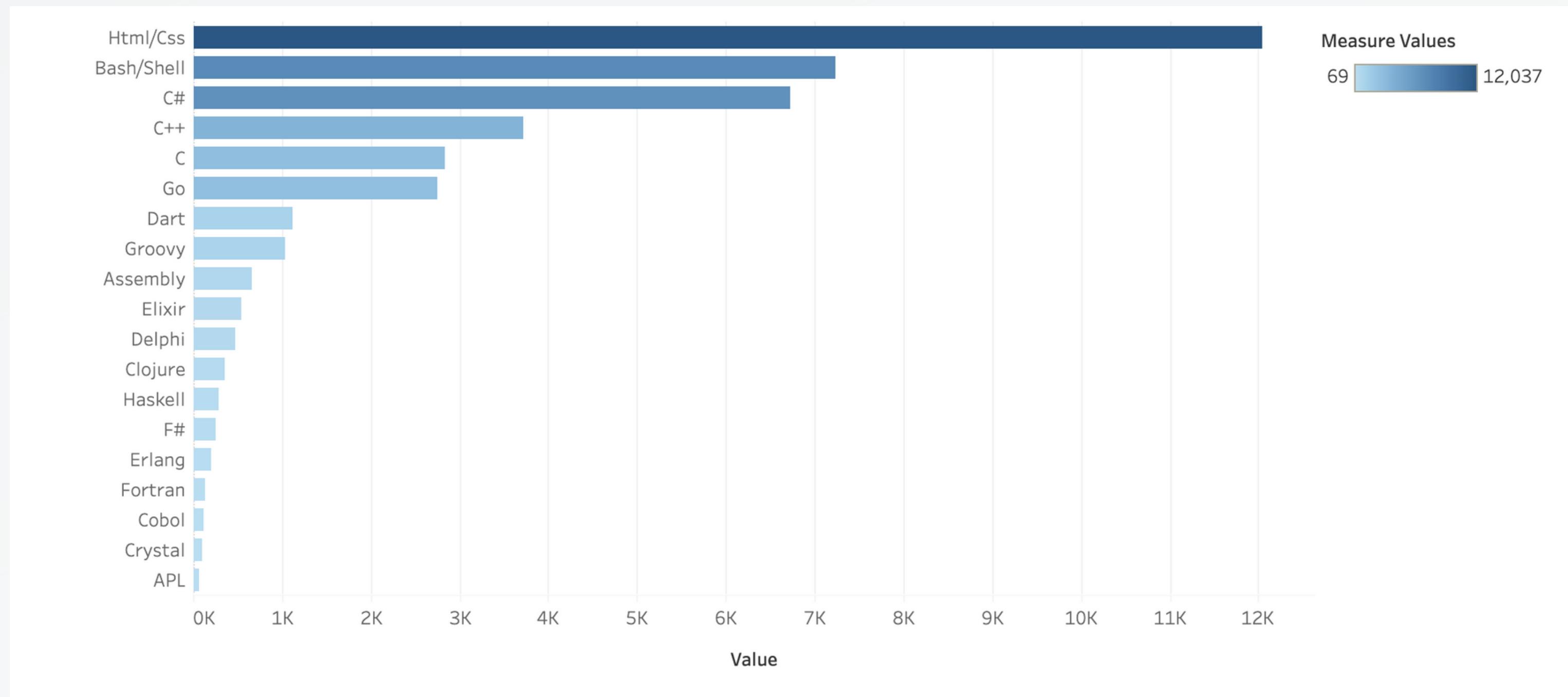
TABLEAU

DEVELOPMENT TYPES OF SURVEY RESPONSES



TABLEAU

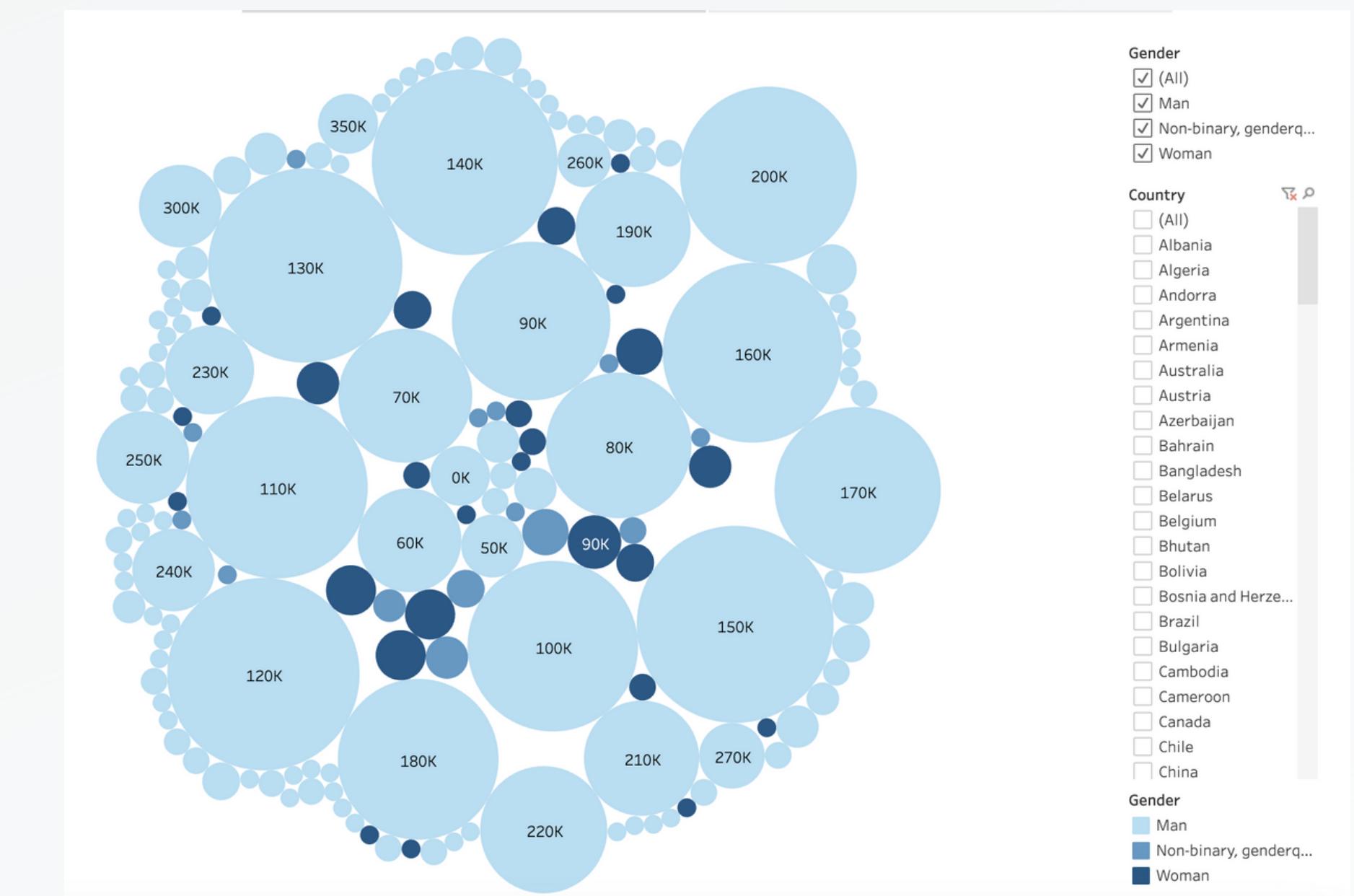
MOST POPULAR LANGUAGES



TABLEAU

BUBBLE CHART

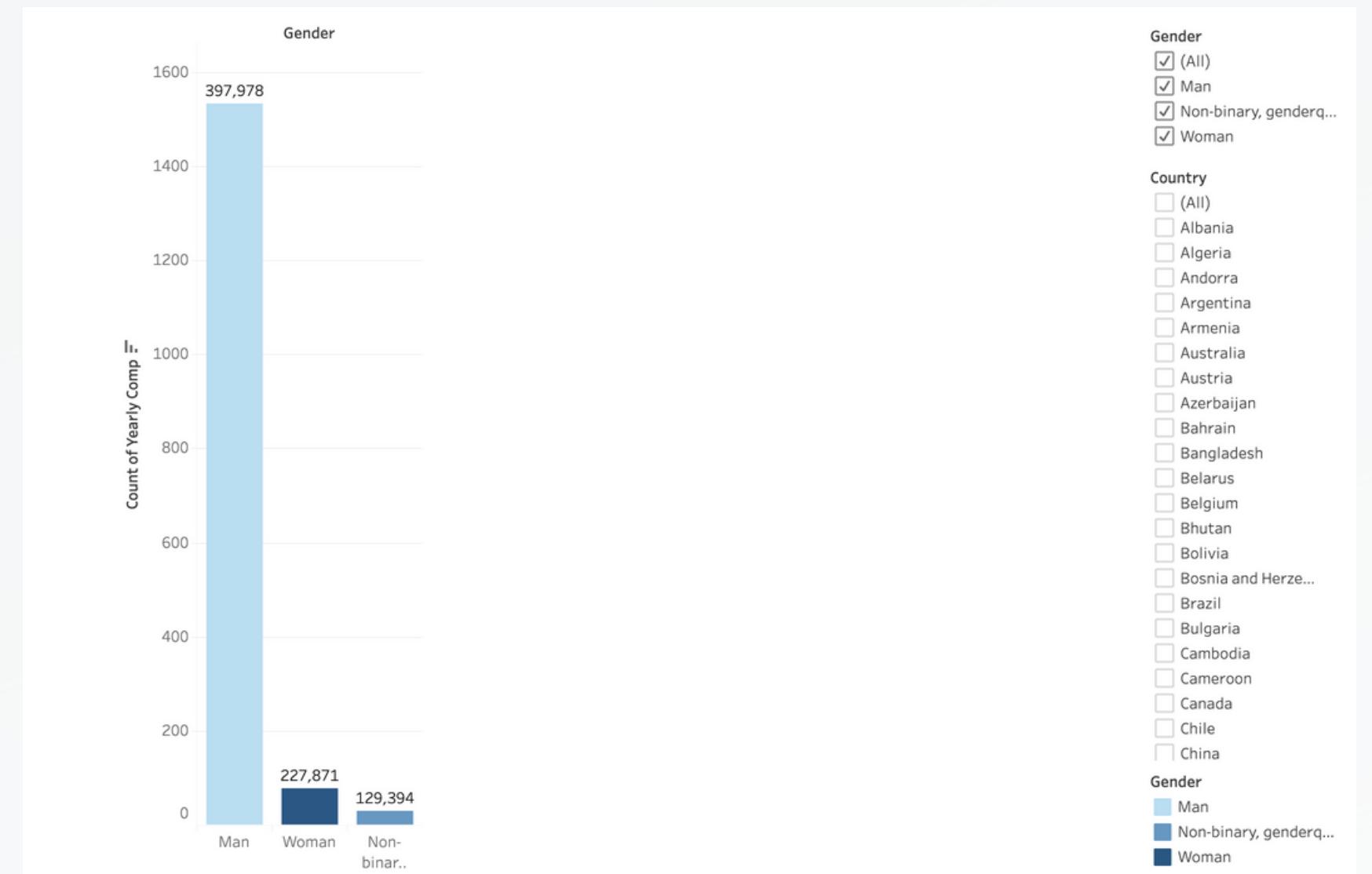
- This bubble chart allows us to visualize pay discrepancies between genders in tech roles through size and color.
 - USA is displayed, but location can be filtered.
 - We can see a trend in our results across the board
 - 3 gender categories
 - Bins: 10,000



TABLEAU

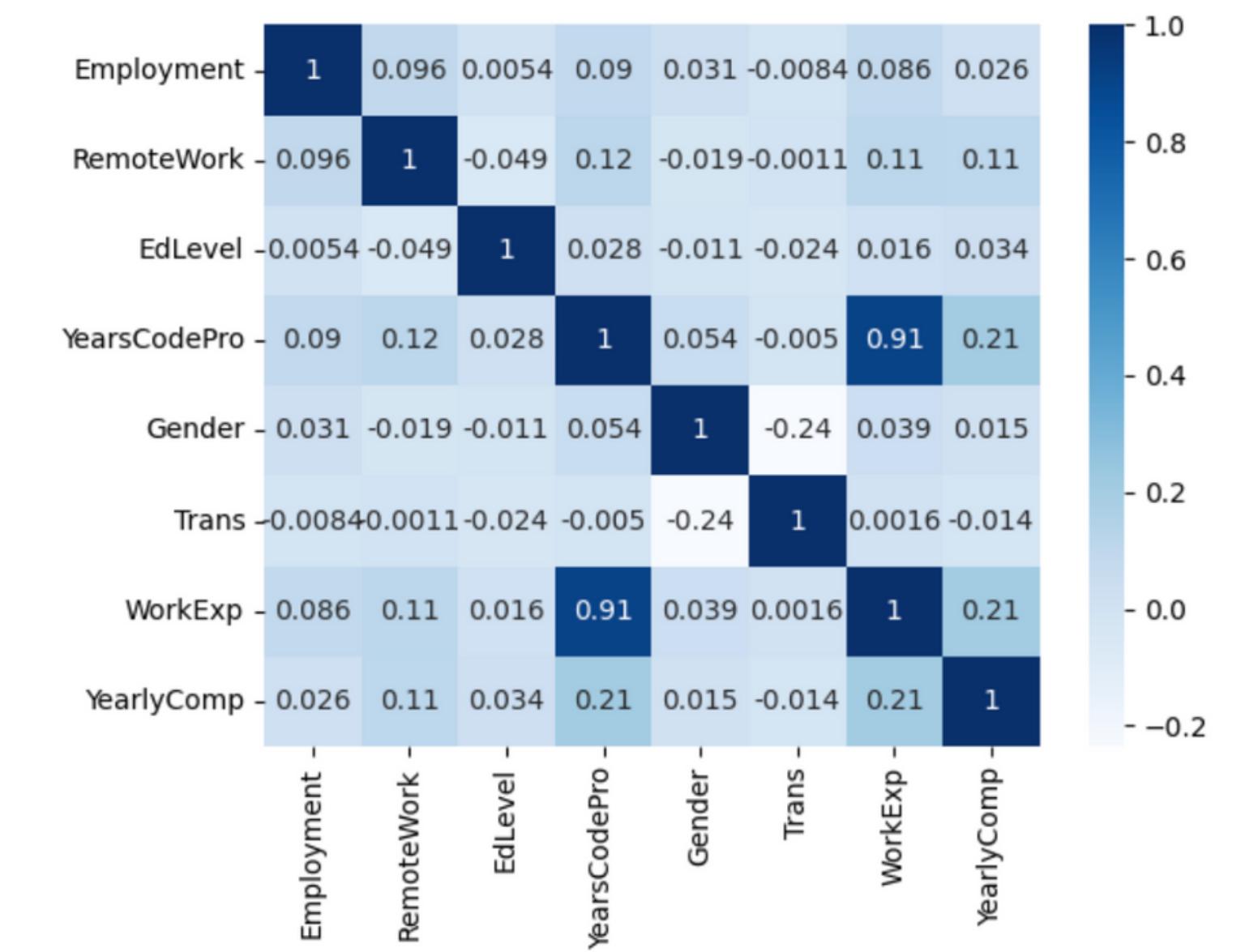
BAR CHART

- This bar chart allows us to visualize disparities between gender representation in tech roles throughout the world
- Average yearly compensation (USA)
 - Men- **\$397,978/yr**
 - Women- **\$227,871/yr**
 - Non-binary, etc.- **\$129,394/yr**
- We can see the average pay gap between men and women, and, men and the non-binary, etc. category ranging between about \$170,000 and \$268,000.



MACHINE LEARNING

- Used multi-linear regression
- 6 total attempts
- Highest r-squared error value: 0.125
- Additional attempts included...
 - dropping variables
 - using feature transformation
 - optimization using keras tuner



MACHINE LEARNING RESULTS

Our model did not perform well likely due to the skewed dataset as shown earlier in the presentation (gender distribution).

However, we can see that there are major disparities in gender representation in the tech sector.

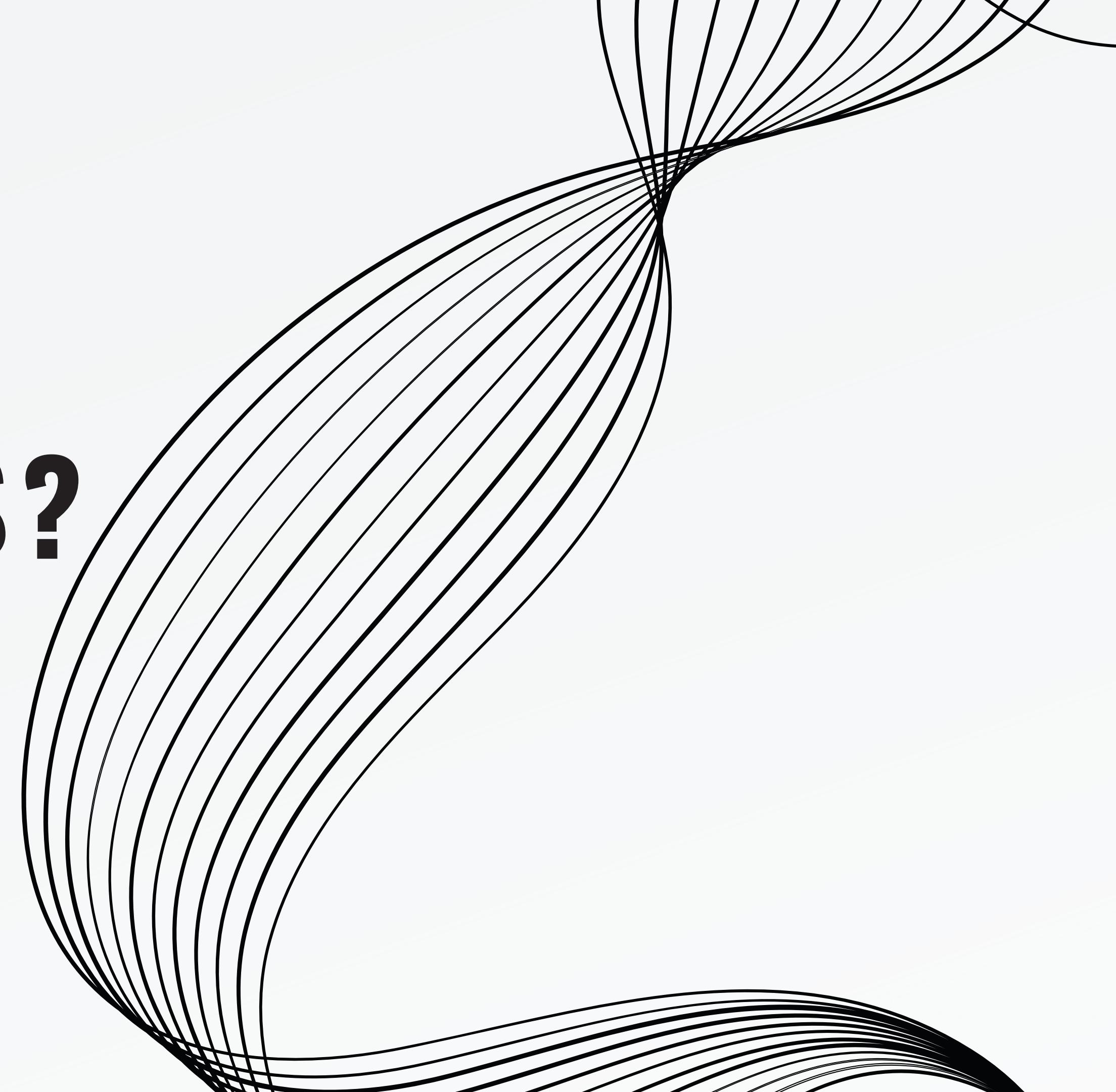
Provided more time, our team would have examined data spanning over 5-10 years, as opposed to just 2022.

FINAL CONCLUSIONS

We see large portion of survey respondents are men, our dataset was heavily skewed, more specifically gender distribution was skewed towards men, as men hold the majority of roles in tech industries.

Our visualizations clearly displayed the gaps between gender pay across the world. Fortunately, we are able to see that the gap is starting to diminish with younger workers.

QUESTIONS?





The background features a large, abstract graphic element consisting of numerous thin, black, curved lines that form a flowing, wave-like pattern across the upper half of the image. Below this, the text is centered within a rectangular area defined by a thin black border. The bottom portion of this rectangle is filled with a solid, light gray color.

THANK YOU