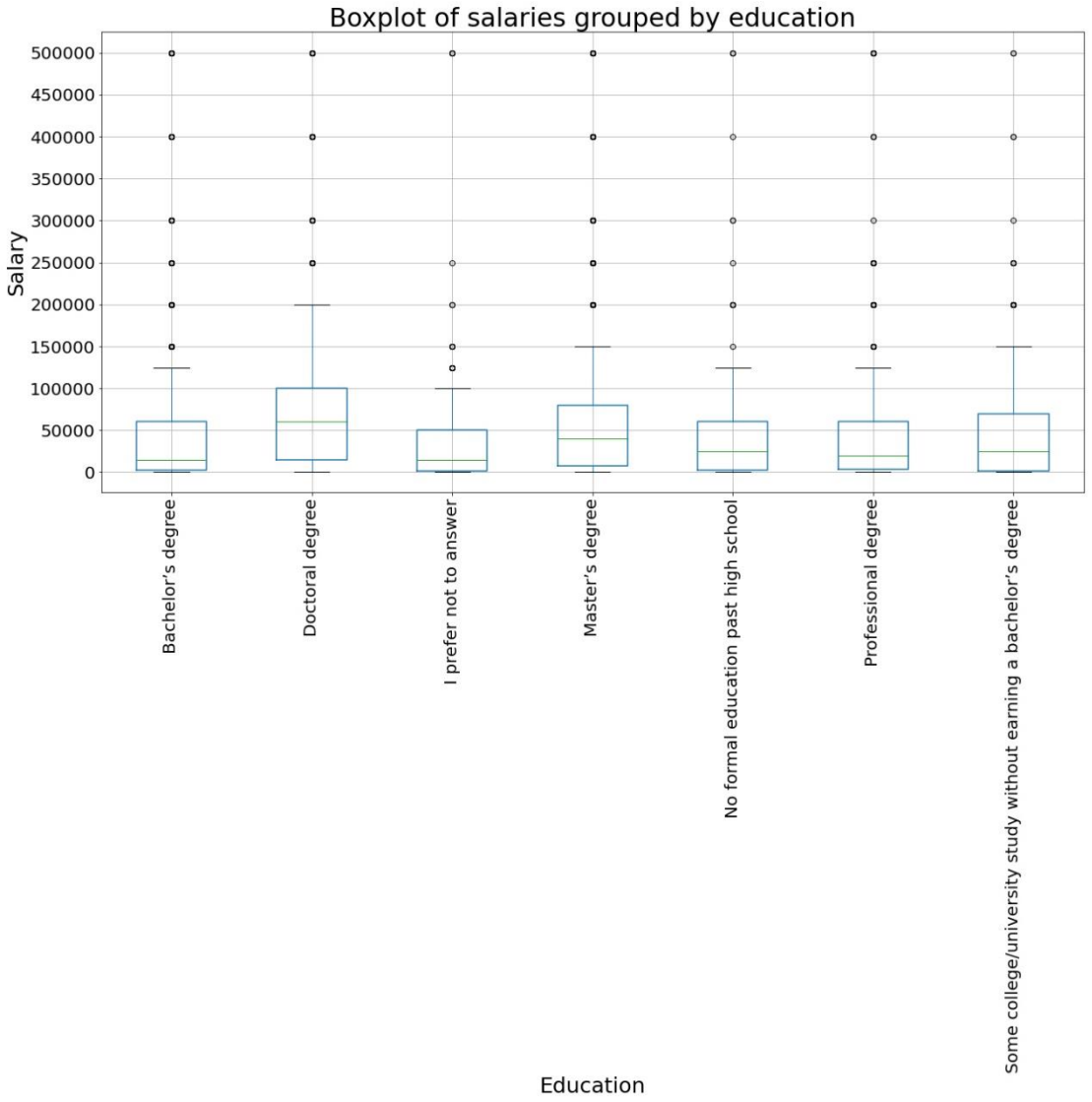
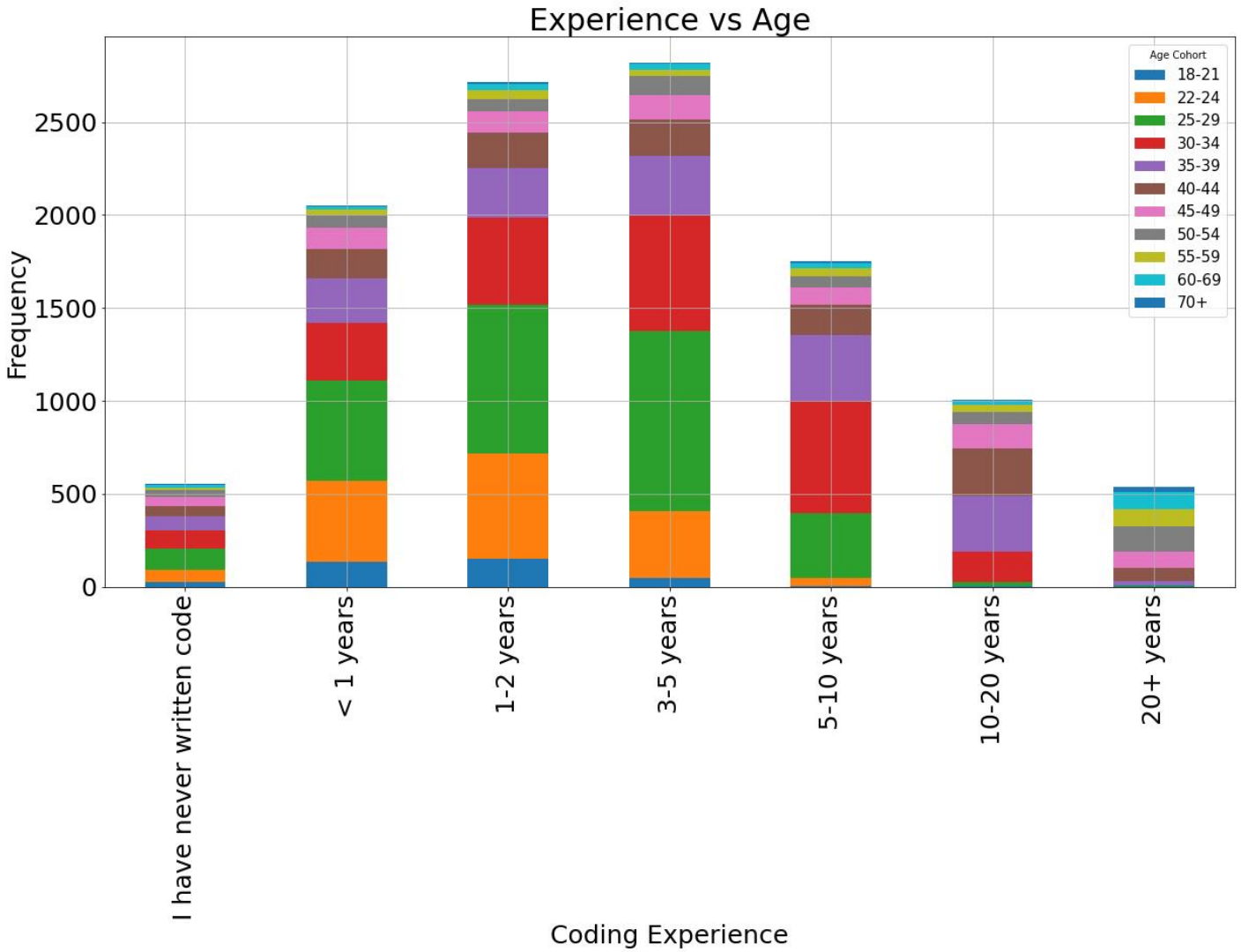
Kaggle ML & DS Survey Challenge

Exploratory analysis:



- Exploratory data analysis reveals that data scientists receive higher salaries when their education level is higher
- It is also evident that there is a significant change in salaries between different countries
- No. of data scientists in a country has no significant impact on the salary of data scientists in that country



Relatively newer field since most of the age distribution is within 10 years

Experience is tied closely to the age, evident in 35-44 bracket in 10-20 years experience cohort.

Salary difference between male and female: T-test to find the statistical significance of salary difference between male and female data scientists

Original data	Gender		T-test values	
	Male	Female	t-value	P-value
Sample count	10473	1827	-6.909	5.108e-12
Mean salary	58709.59	45933.77		
Bootstrapped data with replacement				
Bootstrapped samples	10473	1827	-253.858	0.0
Iterations	1000	1000		
Mean salary	58716.48	45964.48		

T-test here reveals that there is a statistically significant difference in salaries between men and women.

Salary difference with education: ANOVA-test to find the statistical significance of salary difference between data scientists with Bachelor's, Master's and Doctoral degrees

Original data	Gender			T-test values	
	Bachelor's	Master's	Doctoral	Statistic	P-value
Sample count	3361	5868	2083	117.83	2.23e-51
Mean salary	44999.256	58778.629	75761.40		
Bootstrapped data with replacement					
Bootstrapped samples	3361	5868	2083	130928.048	0.0
Iterations	1000	1000	1000		
Mean salary	45007.98	58773.799	75733.95		

ANOVA test reveals that there is a statistically significant difference in salaries between Bachelor, Master and Doctoral degree holders.