



# Data Glacier

Your Deep Learning Partner

## Week #10 Deliverables

### **Team member details:**

Group Name: Sophie The Scientist

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### **Problem Description**

ABC Bank wants to sell its term deposit product to customers and before launching the product they want to develop a model which help them in understanding whether a particular customer will buy their product or not (based on customer's past interaction with bank or other Financial Institution).

### **Github Repo link:**

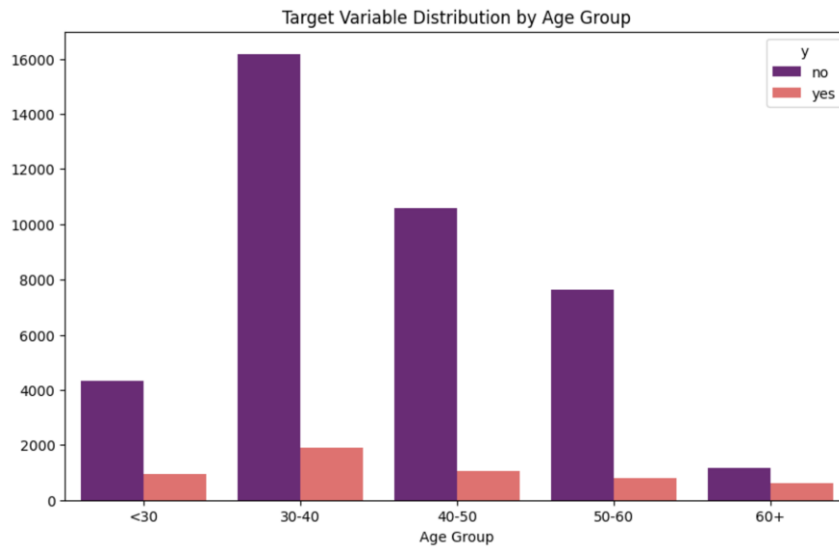
<https://github.com/1Sophani/DataGlacier-Internship/tree/main/Week%2010>

### **Exploratory Data Analysis**

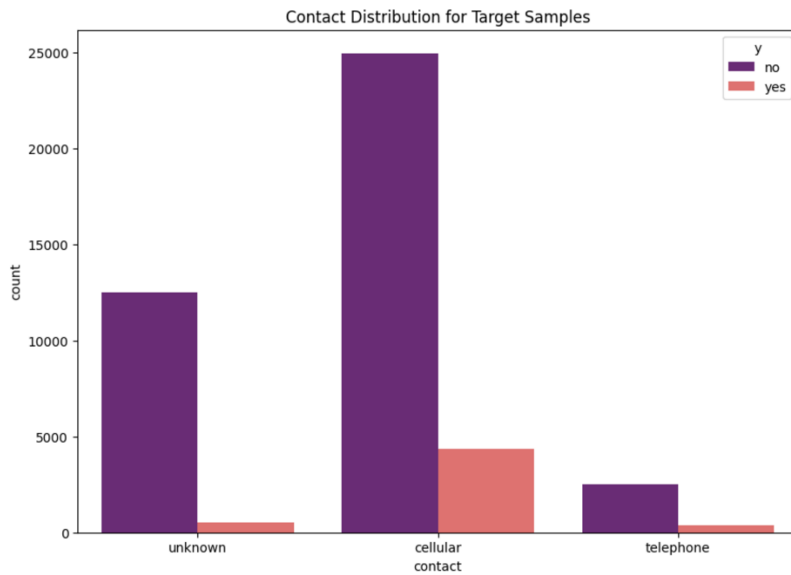
- I explored the distribution and relationships between categorical variables such as age, job, marital status, loan ownership, education.
- Correlation analysis was done to identify relationships between numeric variables
- Categorical variables were analyzed with relation to the target variable

Based on the EDA on the data, there is a noticeable imbalance of the target labels. There are a few observations:

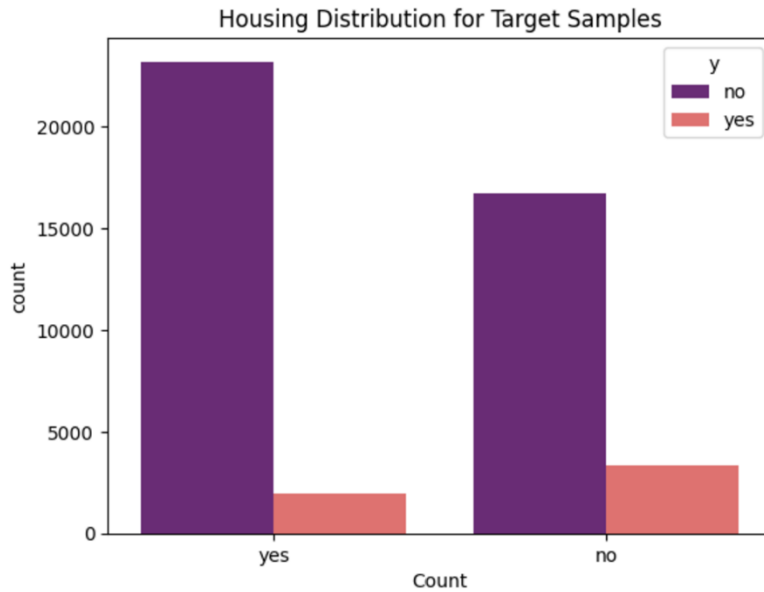
1. The subscription rate decreases as the age increases.



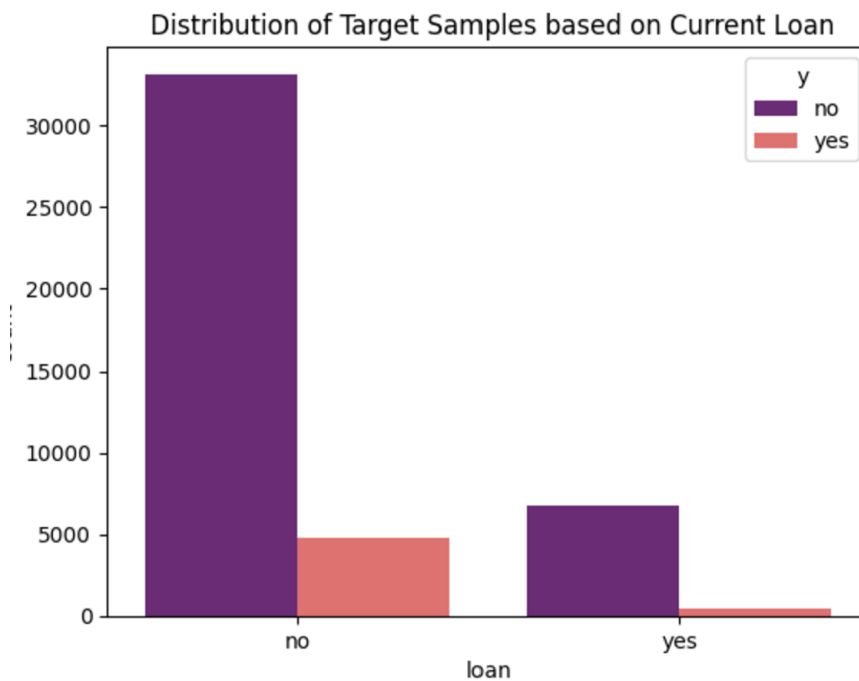
2. The rate of subscription increases with contact such as cellphone or telephone.



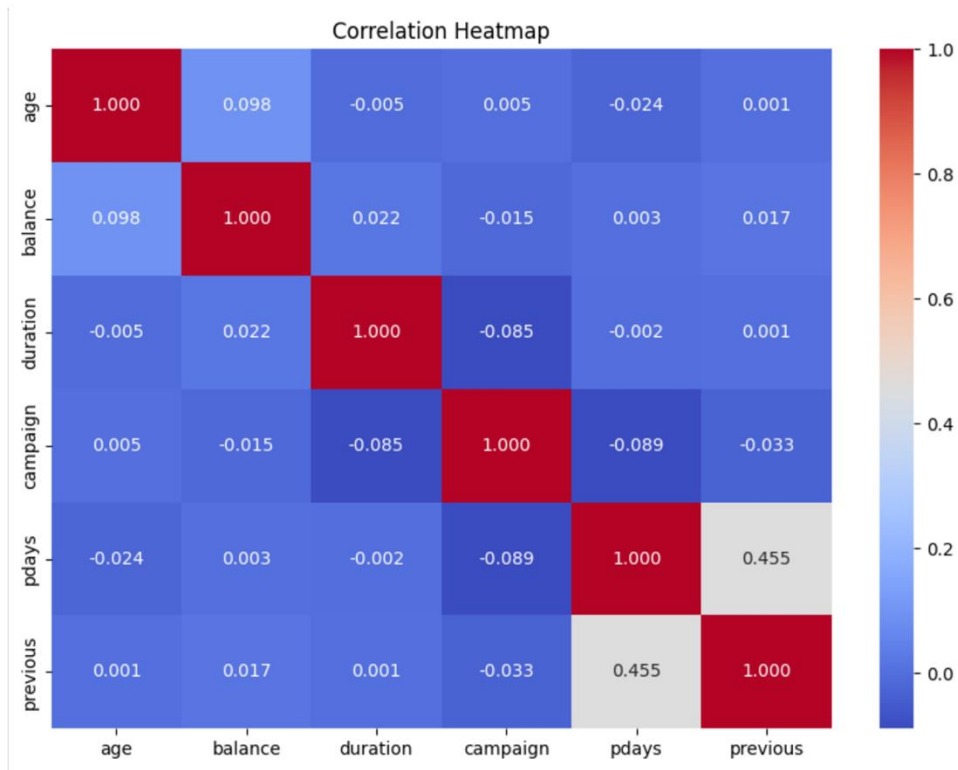
3. There are more subscription rates with those who have housing.



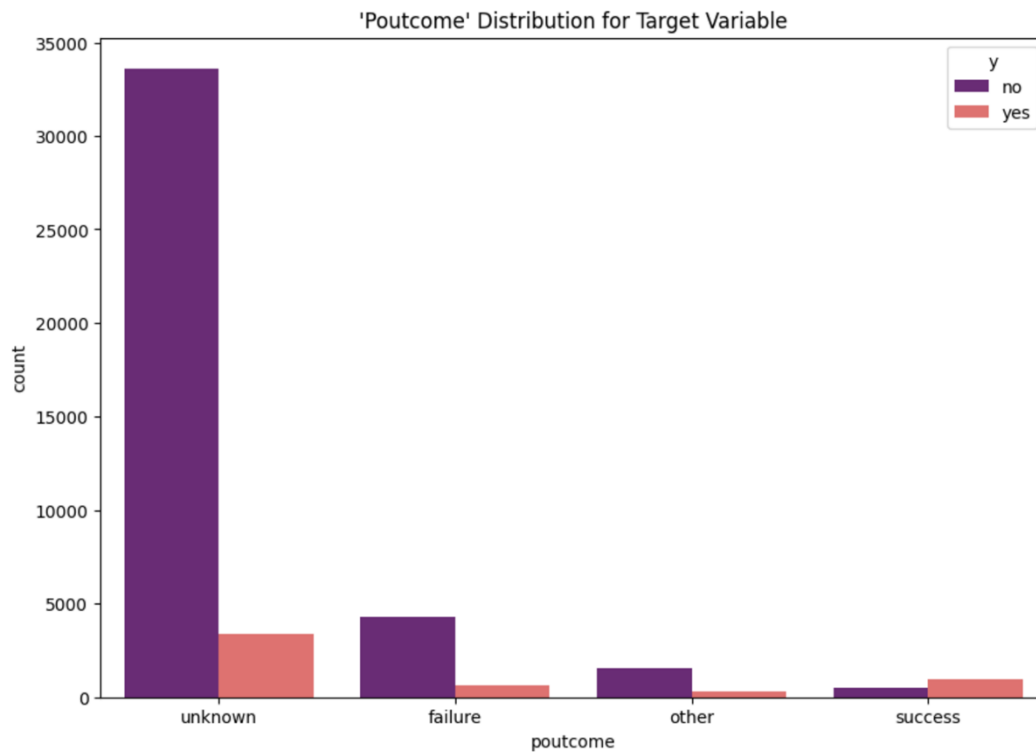
4. Those who do not have a previous loan are less likely to subscribe to a term deposit.



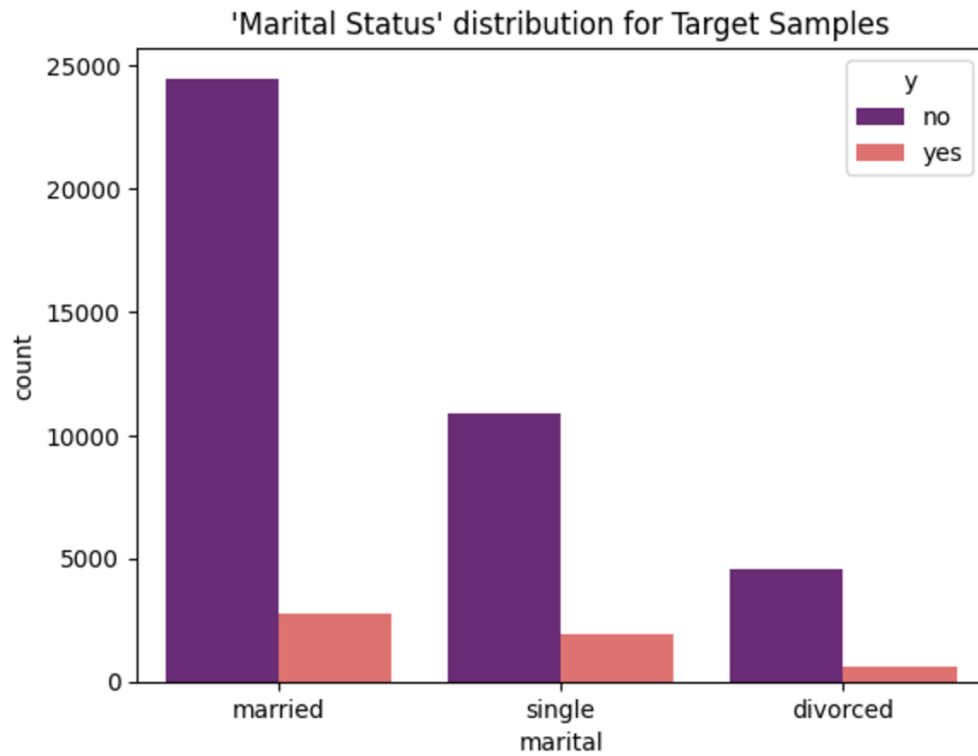
5. Based on the correlation matrix, age and balance have the strongest positive correlation at 0.098 while duration and campaign had the strongest negative correlation.



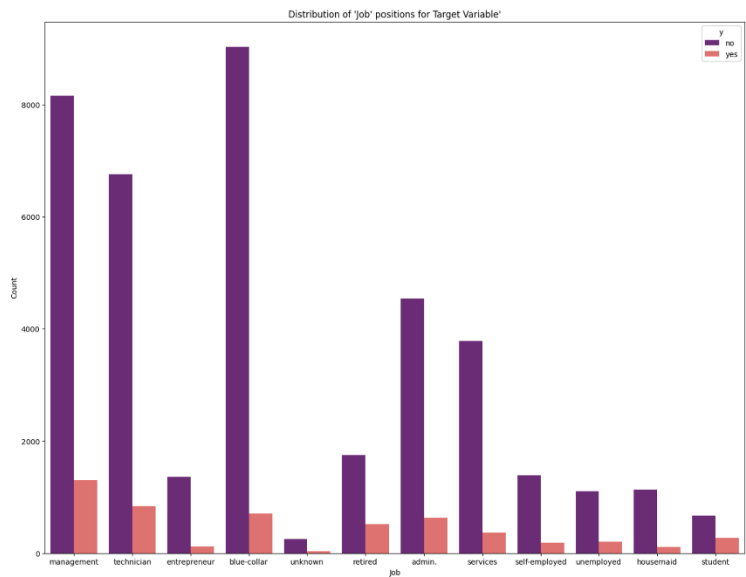
6. Those with a successful previous marketing campaign outcome are more than likely to subscribe to a term deposit.



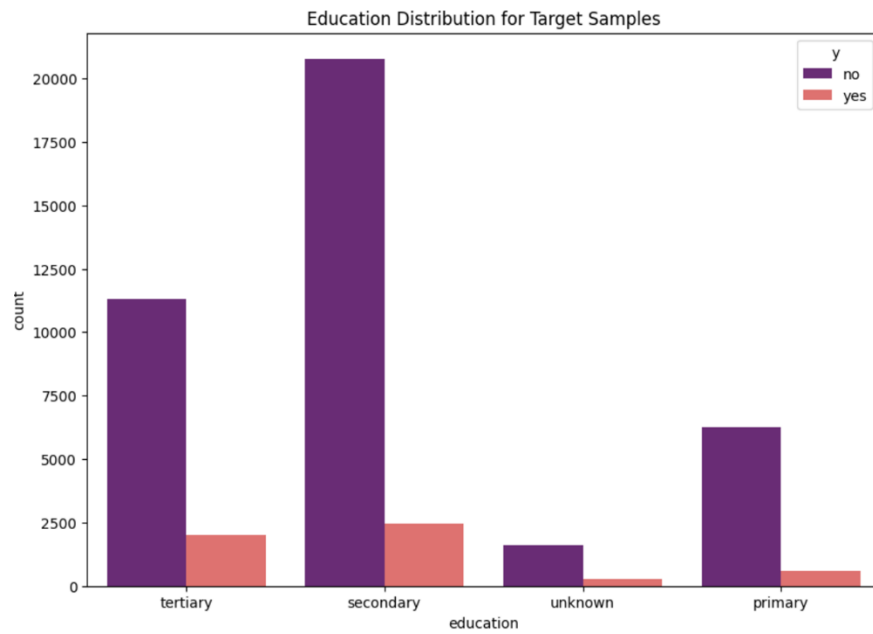
7. A 'married' status is more than likely to subscribe.



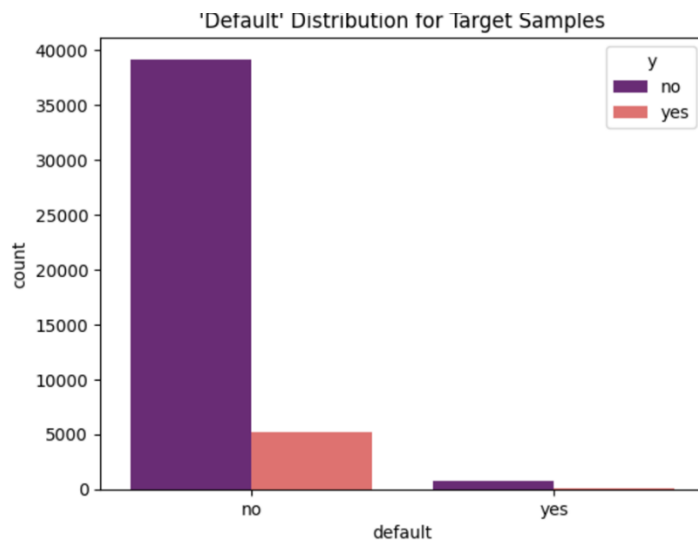
8. There are certain jobs that have a higher subscription rate.



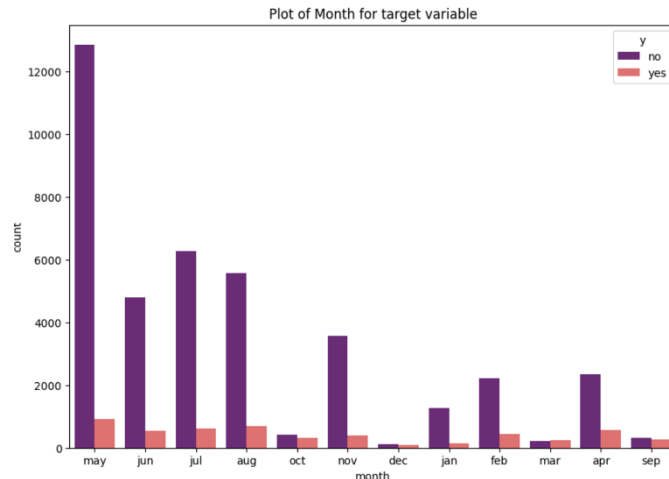
9. A higher level of education is correlated with subscription rates.



10. Individuals with a history of defaulting are less likely to subscribe.



11. There are more subscriptions to a term deposit in the later part of the year with the month of May having the highest subscription rate.



## Final Recommendation

1. Age, job, education, and marital status have a huge influence on subscription rates. These factors should be considered to use for tailoring marketing strategies.
2. Financial factors such as previous loans and default history are important factors that could impact the possibility of subscription. Marketing strategies that can target this group can be offered resources that can help address these financial concerns and information which can help improve subscription rates.
3. It seems the method of contact plays a huge role. The subscription rate increases with contact. Improving current methods that can enhance engagement through contact which can increase subscription rates.
4. The months should be considered when targeting for more subscription rates. There is a higher change of subscription rates in the later half of the year.

### Tabular data details:

<b>Total number of observations</b>	42511
<b>Total number of files</b>	1
<b>Total number of features</b>	17
<b>Base format of the file</b>	.csv
<b>Size of the data</b>	4.4 MB

<b>Total number of observations</b>	42511
<b>Total number of files</b>	1
<b>Total number of features</b>	17
<b>Base format of the file</b>	.ipynb
<b>Size of the data</b>	816.4 KB

<b>Submitted by: Sophonie Sidrac</b>
<b>Submitted to: Data Glacier</b>