Week 10

Data Science Intern at Data Glacier
Project: Bank Marketing (Campaign)

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1. **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).

2. **Github Repolink:** https://github.com/agbaysa/dataglacier_week10

3. **Exploratory Data Analysis Performed on the Data**

   The following was the approach to EDA:
   - Used a Random Forest Classifier and identify important features
   - Use pandas-profiling to profile the engineered data
   - Provide key hypotheses based on the feature importance and highlight the derived insights from EDA

   After identifying feature importance, the EDA section aims to provide insights on several key hypotheses. The following are the key questions and insights derived listed in order of feature importance:

   - The target variable and _econ_idx has a linear relationship: More customer subscribe when the Economic Index is High

   - The lower the campaign, the more likely the customer will subscribe to a term deposit: Most clients need to only be contacted once; Success Rate is highest at 13.87%

   - Those with white-collared jobs are more likely to subscribe: Entrepreneurs, Admins, and Managerial Jobs have higher Success Rates (11% to 16%)

   - Senior customers are more like to subscribe: Customers ages 61 and above and those below 21 years old have higher Success Rates (above 40%)

   - Clients mostly subscribe on the first day of the week (Monday): Success Rates are slightly higher during midweek (Tue to Thu at above 12%)

   - Customers with a higher education are more likely to avail: Those with university degrees have a higher Success Rate (14%)

   - Married individuals are more likely to avail: Single individuals have a higher Success Rate (14%)