Loan Acceptance Prediction

AIC - Machine Learning Specialization C5.V1

Challenge Overview

Objective

In this challenge, you will explore a Loan dataset, go through the steps of the Data Science Lifecycle, and finally be able to build a simple machine learning model that predicts whether a person's loan will be accepted or rejected based on his/her features.

DataSet

Loan Dataset (*Download here:* Training Data, Testing Data).

The dataset variables include:

- **Loan_ID:** data set unique ID
- **Gender:** individual gender
- **Married:** individual marital status
- **Dependents:** number of dependents
- **Education:** individual education status
- **Self_Employed:** individual employment status
- **ApplicantIncome:** individual income
- **CoapplicantIncome:** individual Coapplicant income
- **LoanAmount:** Loan amount in thousands
- **Loan_Amount_Term:** term of loan in months
- **Credit_History:** credit history meets guidelines
- **Property_Area:** Urban/ Semi Urban/ Rural
- **Loan_Status:** loan approved (Y/N) - *YOUR TARGET*

Challenge Overview

Expected Work

You are expected to go through the essential steps of the Data Science Lifecycle as presented in the lessons of Week 1. The steps you follow should include:

- ❏ Importing the data in the Notebook Environment
- ❏ Do the exploratory Data Analysis
- ❏ Preprocess the data before building your model
- ❏ Train a Logistic Regression model that predicts if a loan would be accepted or not based on the given features, and then validate it.
- ❏ Find the feature Importance in the resultant model.

We provide you with a Colaboratory notebook skeleton here that we recommend you use to create your solution and submit for evaluation.

Submission Requirements (Read Carefully!)

- ❏ Write your solution in the notebook skeleton provided (linked above) without changing any of the steps.
  - ❏ You are expected to fill your code solutions in the spaces that mention “#Test Your Zaka” in the code cells.
  - ❏ You are expected to fill your analytical solutions in the spaces that mention “(Share Your Zaka here)” in the markdown cells. Make sure to keep your responses in **bold font type**.
- ❏ Upload your final notebook solution to your Drive and submit the link through the form shared on the platform. Make sure you set the sharing settings of the notebook to be viewed by Anyone with the link.