BIBLIOTECAS UTILIZADAS

```python
#importacao de bibliotecas

#bibliotecas para trabalhar com dados e graficos
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
from tabulate import tabulate

#bibliotecas do scikit-learn
from sklearn import preprocessing
from sklearn.model_selection import train_test_split
from sklearn.metrics import mean_squared_error
from sklearn.utils import shuffle

#biblioteca para exportacoes e importacoes de arquivos
from joblib import dump, load

#biblioteca para implementar uma barra de progresso
import progressbar

#bibliotecas para deep learning
import tensorflow.keras
from tensorflow.keras.models import Model, load_model
from tensorflow.keras.layers import Input, Dense, Reshape, Dropout
from tensorflow.keras.optimizers import Adam
from tensorflow.keras.callbacks import EarlyStopping, ModelCheckpoint

#bibliotecas para plotar graficos do keras
import pydot as pyd
import pydotplus
from pydotplus import graphviz
from tensorflow.keras.utils import plot_model
tensorflow.keras.utils.pydot = pyd
```