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## ∃ Course Content

# FAQ - EasyVisa

PLEASE NOTE: Use Google Colab for the project to compute the code faster in comparison to jupyter notebooks used in personal computers

## 1. How should one approach the EasyVisa project?

- Before starting the project, please read the problem statement carefully and go through the criteria and descriptions mentioned in the rubric.
- Once you understand the task, download and import the dataset into a Jupyter notebook to get started with the project.
- To work on the project, you should start with an exploratory analysis of the data. Try to use descriptive statistics and visualization to understand the data.
- Once the EDA is completed, you should start building possible models (tuned and untuned) and test for corresponding performance metrics to find the best-performing model.
- It is important to close the analysis with key findings and recommendations to the business.

## 2. I am getting the below error:

ValueError: could not convert string to float

#### How to solve it?

As algorithms available in sklearn library cannot handle non-numeric data, it is preferable to either encode or create dummy variables for the categorical features.

#### 3. How to install XGBoost on Windows?

To install XGBoost on Windows, use "!pip install xgboost" in Jupyter notebook or "conda install -c anaconda py-xgboost" in the Anaconda prompt in Anaconda.

Before this, it must be ensured that previous versions of XGBoost are uninstalled by using the command "!pip uninstall xgboost".

#### 4. How to install XGBoost on Mac?

To install XGBoost on Mac, run the following command in terminal "conda install -c condaforge xgboost".

In some cases, trying to install XGBoost may return the following error:

XGBoostError: XGBoost Library (libxgboost.dylib) could not be loaded. Likely causes:

- \* OpenMP runtime is not installed (vcomp140.dll or libgomp-1.dll for Windows, lib
- \* You are running 32-bit Python on a 64-bit OS

In this scenario, run the following commands on the Terminal on macOS:

Note: Open a new Terminal window before using the below commands in the macOS Terminal.

To open the Terminal, open the Launchpad and then click on the Terminal icon.

1. Install the Homebrew package manager by running the following command on the Terminal.

/bin/bash -c "\$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/HEAD/

2. After this, use Homebrew to install the OpenMP library by running the following command on the Terminal.

brew install libomp

This should allow you to install XGBoost on your Mac.

5. Tuning XGBoost is taking too much time. What to do?

Please find below the options that can be tried to reduce the run time for XGBoost tuning:

- 1. Pick individual features at a time and try adjusting them. Get the optimal value beyond which no improvement is seen, note that optimal value, and move on to the next feature.
- 2. Only use parameters that are necessary. Do not use all the parameters just because they are there.
- 3. Do not use more than 2-3 options in each list of hyperparameters given to the tuning function.
- 4. Try a small dataset randomly chosen from the original dataset, tune hyperparameters on them, and then use that set of hyperparameters over the entire dataset.
- 5. The above steps can be followed to reduce the execution time while doing the hyperparameter tuning of other models as well.
- 6. I am getting the below error with Bagging Classifier with Logistic Regression as base\_estimator:

```
AttributeError: 'str' object has no attribute 'decode'
```

## How to solve it?

The LogisticRegression function has a parameter named solver, which was earlier by default set to 'liblinear', but after an update in sklearn, the default solver was changed to 'lbfgs'. Kindly try setting the solver as liblinear, and try the code again, as shown below:

bagging\_lr=BaggingClassifier(base\_estimator=LogisticRegression(solver='liblinear', bagging\_lr.fit(X\_train,y\_train)

7. I am getting the below warning while fitting XGBoost Classifier

WARNING: Starting in XGBoost 1.3.0, the default evaluation metric used with the obj

## How to solve it?

To remove the warning kindly try setting the eval\_metric hyperparameter as 'logloss', as shown below:

xgb = XGBClassifier(eval\_metric='logloss')

8. Is it necessary to normalize the prevailing\_wage column into yearly wage?

It is not necessary to normalize the prevailing\_wage column into yearly wage since we do not know the exact number of working hours in a day or the exact number of working days in a week and so on. After the analysis is done without treating the prevailing\_wage column, one can find out useful insights between the unit\_of \_wage and case\_status columns. For example, a sample insight can be, for the ones who have an hourly unit of wage (generally for a contractual worker or intern), the visa approvals are less. However, it entirely depends on the discretion of the learners to treat the prevailing\_wage column or not, but proper reasoning should be provided for the same.

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