This document includes briefly how I used the AI prompts from Chatgbt in the project. The Prompts are well cited in the code file ‘ProjectX’:

1. Prompt One: How do we process IP addresses

* The AI suggested several methods to process IP Addresses. I choose the first method which explained using a python module ‘ipaddress’ that converts the IP into numeric representation with an example and accordingly used the function with columns in our dataset.

1. Prompt Two: ValueError: Target is multiclass but average='binary'. Please choose another average setting, one of [None, 'micro', 'macro', 'weighted'].

* The AI explained the error for me, telling me that I need to add another parameter in the precision calculation since it is a multiclass and not binary (two classes). Accordingly, I modified all metrics calculation to include the ‘macro’ parameter because it calculates precision for each class individually and then averages the result.

1. Prompt Three: If a model gives hundered perecnt in training should it also give 100 in testing?

* The AI explained that there could be signs of overfitting and suggested several methods to check/prevent it. One of the methods was Cross-validation.

1. Prompt Four: I got 100% on both training and testing on DTC, RFC, BgC & XGB. Guide me on how to validate them in code.

* The AI gave code to do 5-fold cross-validation for each model. The code given included just accuracy and I added the other metrics.

1. Prompt Five: How do we save the training in an object to use it?

* The AI suggest two Libraries the first is Pickle and the second is Joblib. The AI explained that Joblib is better with large datasets so ultimately it was chosen to save the trained model as an object.
* The example by the AI showed how to save the model and I wrote a loop for the dictionary of models to save the trained models. Also turns out that I had to save the encoding and scaler used.