

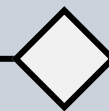
DRUGS CONSUMPTION

python project



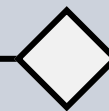


STEPS OF OUR PROJECT



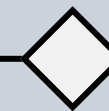
01

Import libraries,
Loading dataset,
Cleaning the data,
Adding columns and
variables



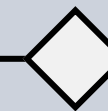
02

Data visualization,
Plotting values,
Analysing plots and
diagrams



03

Machine Learning
Using Scikit learn
Training and testing
the model
Prediction



04

Bonus
Deep Learning
Flask API



1 – PRESENTATION OF THE DATASET

- Drugs consumption DataSet
- 1885 participants
- 12 Attributes : Personality traits, Gender, Age, Country, Diplomas or school certifications...
- 18 drugs
- 18 consumption status classes



ADDED ATTRIBUTES



Legal and illegal drugs category

Legality categories :

Legal : Chocolate, Alcohol, Nicotine...

Illegal : Cannabis, Cocaine, Meth,...



TMTO

Drugs Tested More Than Once :
State of Never Tested, Already Tested

Remark : Don't need this because everyone already used 1 "drug" once. (Chocolate)

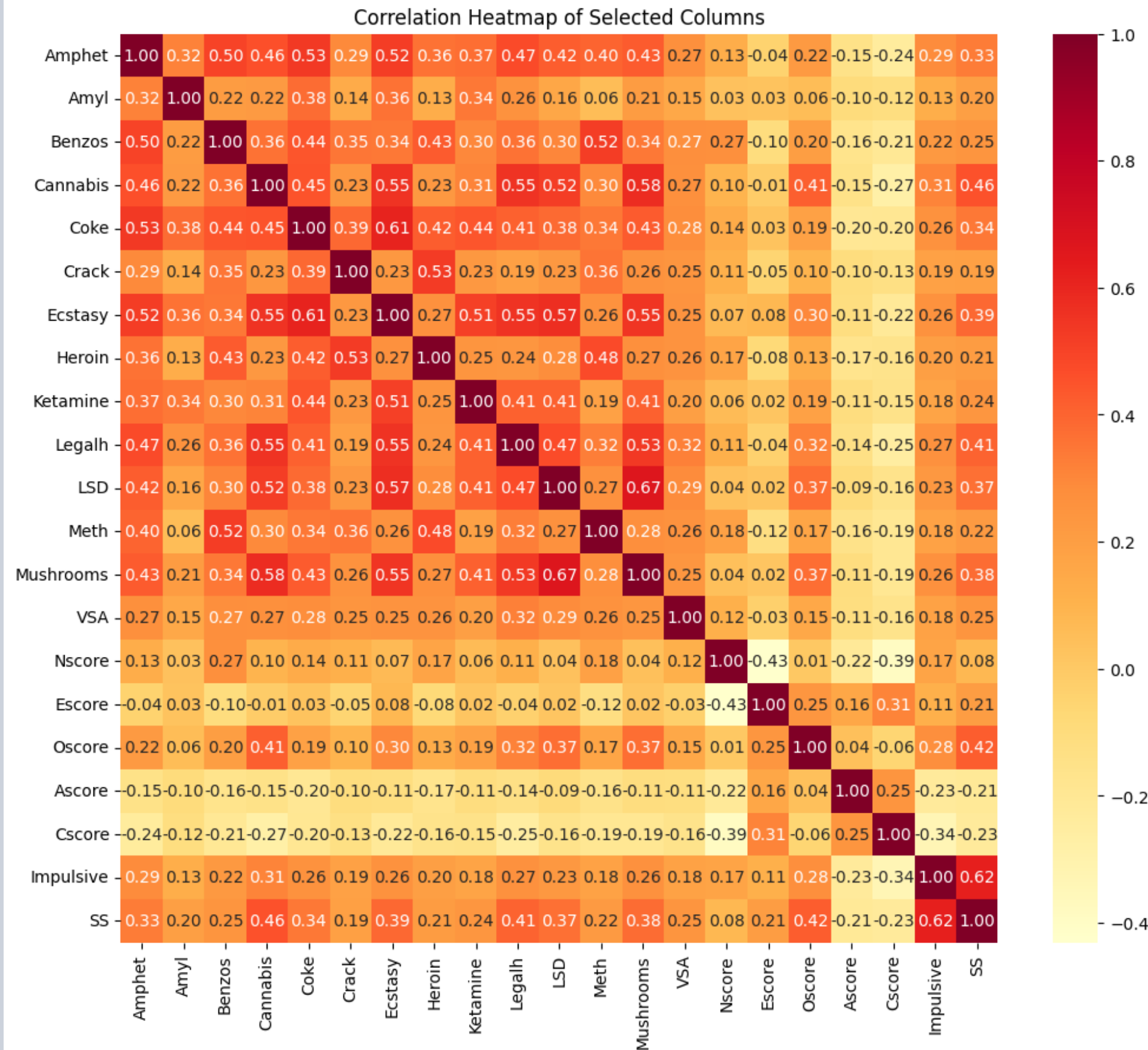


OUR DATASET

	Age	Gender	Education	Country	Ethnicity	Nscore	Escore	Oscore	Ascore	Cscore	...	Ketamine	Legalh	LSD	Meth	Mushrooms	Nicotine
ID																	
1	35-44	Female	Professional certificate/diploma	UK	Mixed-White/Asian	39	36	42	37	42	...	0.0	0.0	0.0	0.0	0.0	2.0
2	25-34	Male	Doctorate degree	UK	White	29	52	55	48	41	...	2.0	0.0	2.0	3.0	0.0	4.0
3	35-44	Male	Professional certificate/diploma	UK	White	31	45	40	32	34	...	0.0	0.0	0.0	0.0	1.0	0.0
4	18-24	Female	Masters degree	UK	White	34	34	46	47	46	...	2.0	0.0	0.0	0.0	0.0	2.0
5	35-44	Female	Doctorate degree	UK	White	43	28	43	41	50	...	0.0	1.0	0.0	0.0	2.0	2.0
...
1884	18-24	Female	Some college or university, no certificate or ...	USA	White	25	51	57	48	33	...	0.0	3.0	3.0	0.0	0.0	0.0
1885	18-24	Male	Some college or university, no certificate or ...	USA	White	33	51	50	48	30	...	0.0	3.0	5.0	4.0	4.0	5.0



2 - DATA VISUALIZATION



We created plots to help visualize consumption per :

- Age category
- Education level
- Big Five personality traits
- Correlation heatmaps between drugs, personality, respondents personal attributes.
- Consumers type on Alcohol usage
- Consumers type on illegal Drugs usage



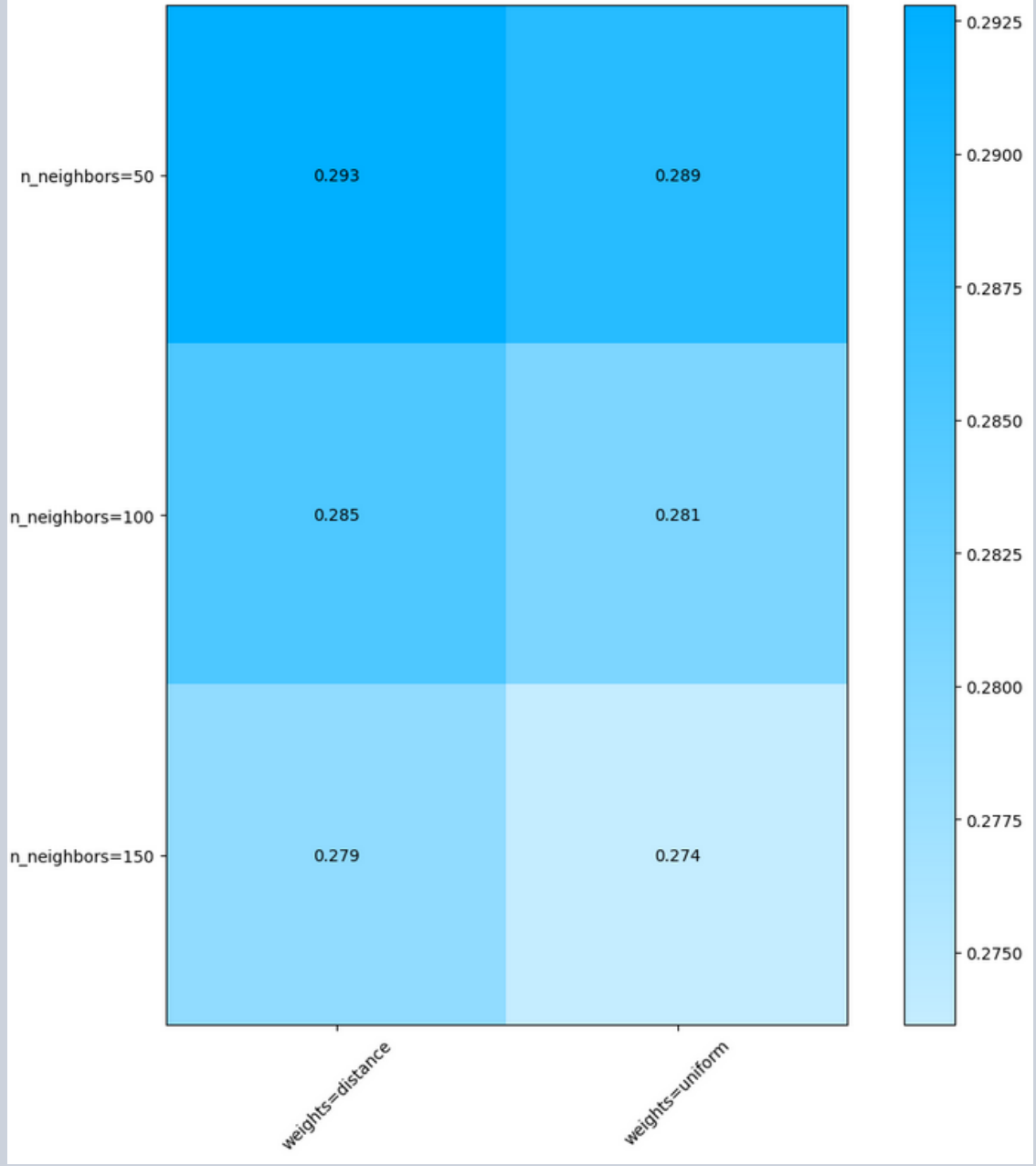
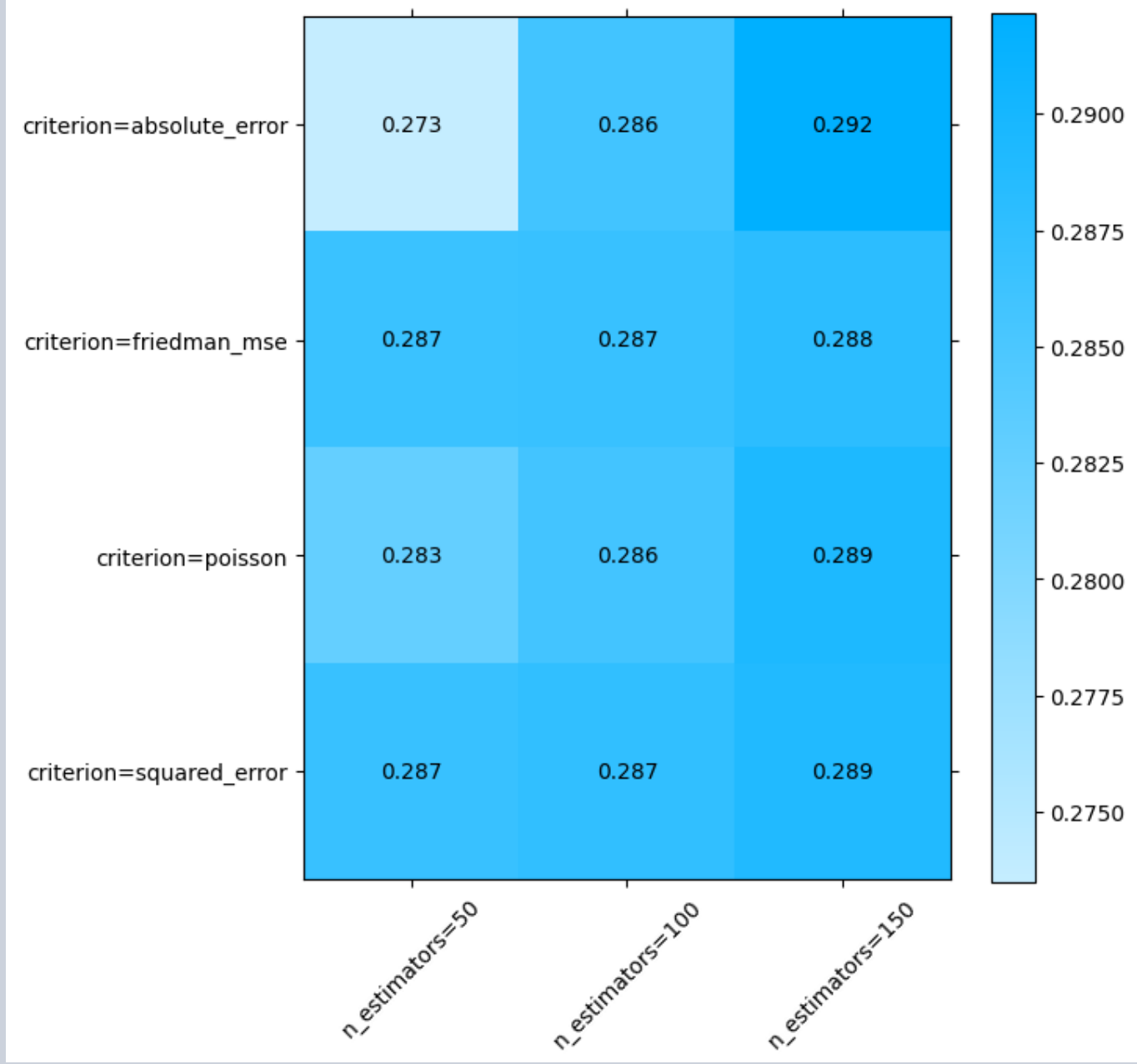
3 - MACHINE LEARNING

Goal : Create a Prediction Model to know the drug consumption based on the personality traits.

- Training and testing the dataset with scikit-learn
- Three models :
 - kNN,
 - Random Forest
 - Gaussian Naive Bayes
- Cross validation for grid search



OUR PREDICTION

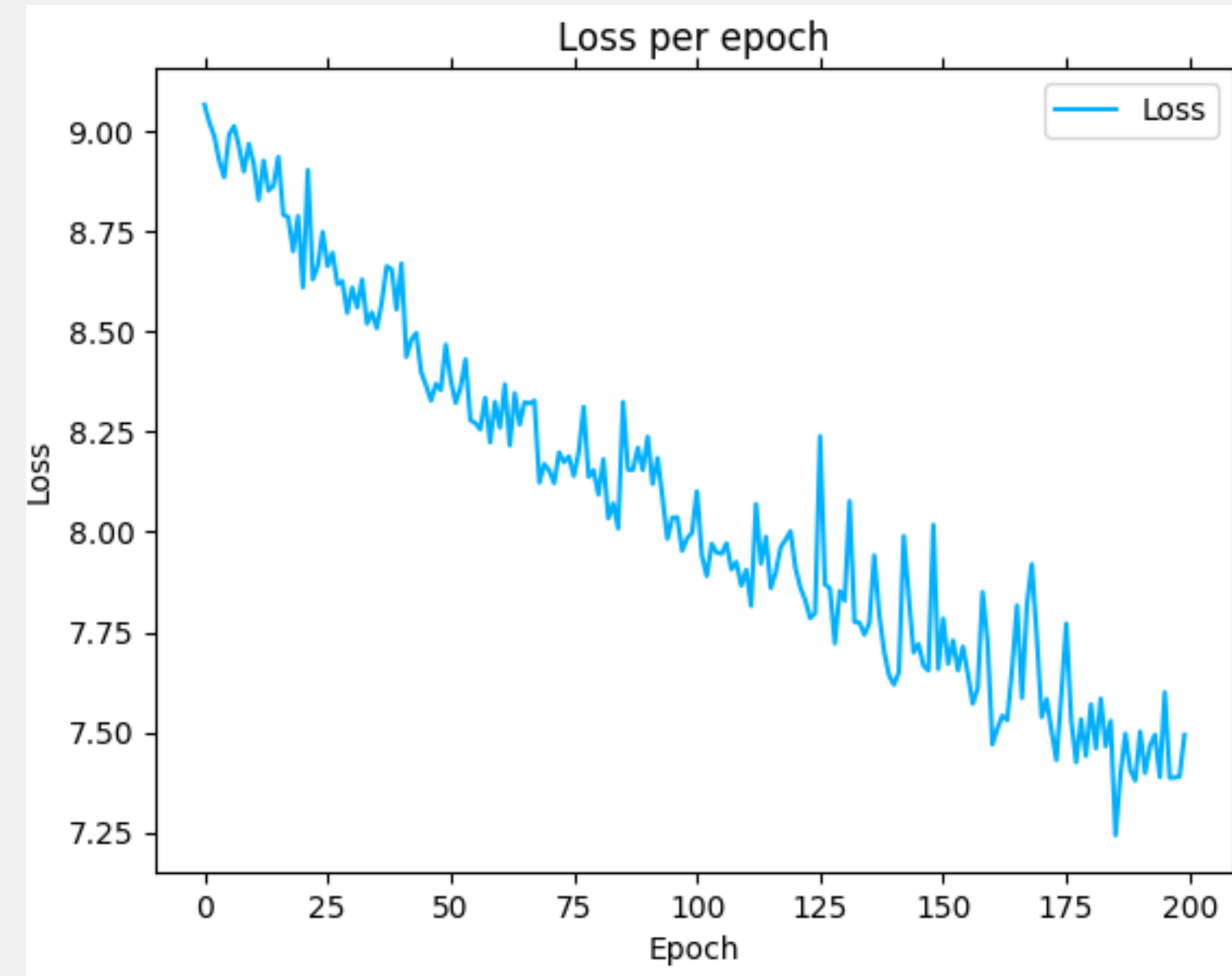
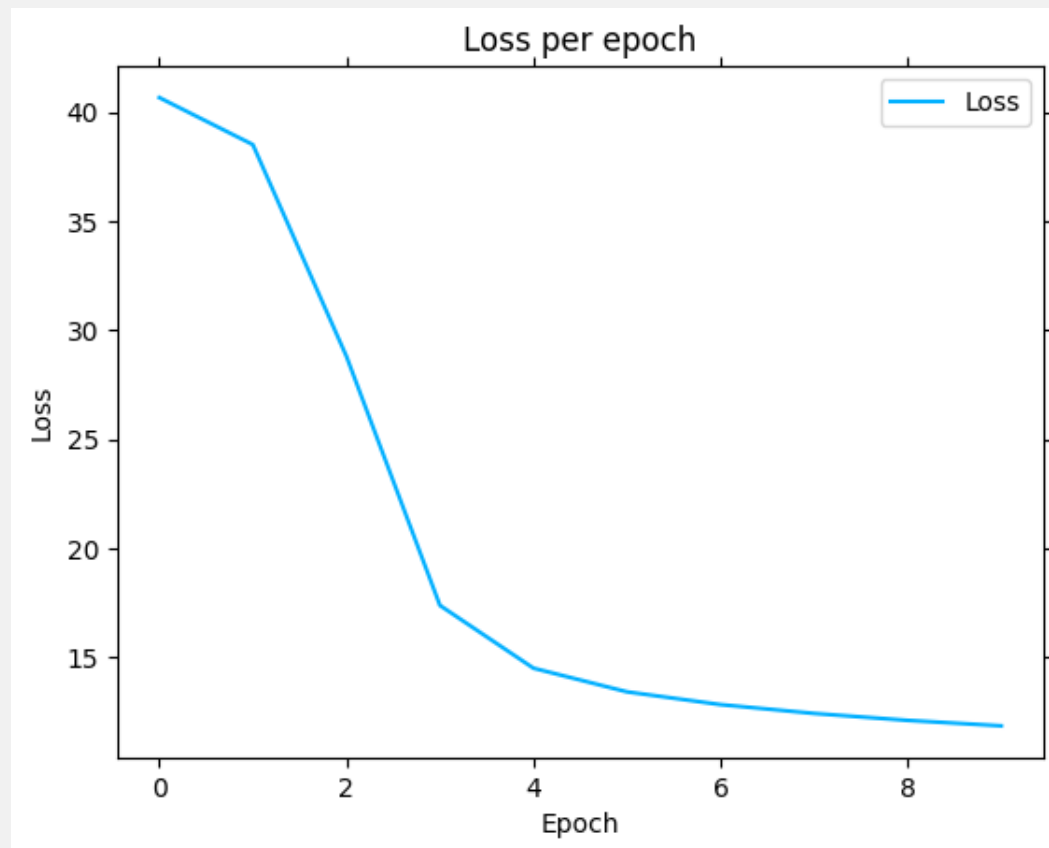


BONUS

DEEP LEARNING

Goal : Creating a deep learning model

- Using TensorFlow and Keras libraries



FLASK API

Python data analysis : prediction model api

Enter personality scores and psychiatric scores

Age

Gender

Education

Nscore

🌐 127.0.0.1:5000

The model predicts that you have taken at least : 6 illegal drugs !!! You will be reported to the police immediately >:-(

OK

Oscore

Cscore

Impulsive

SS

Send



THANK YOU
very much

