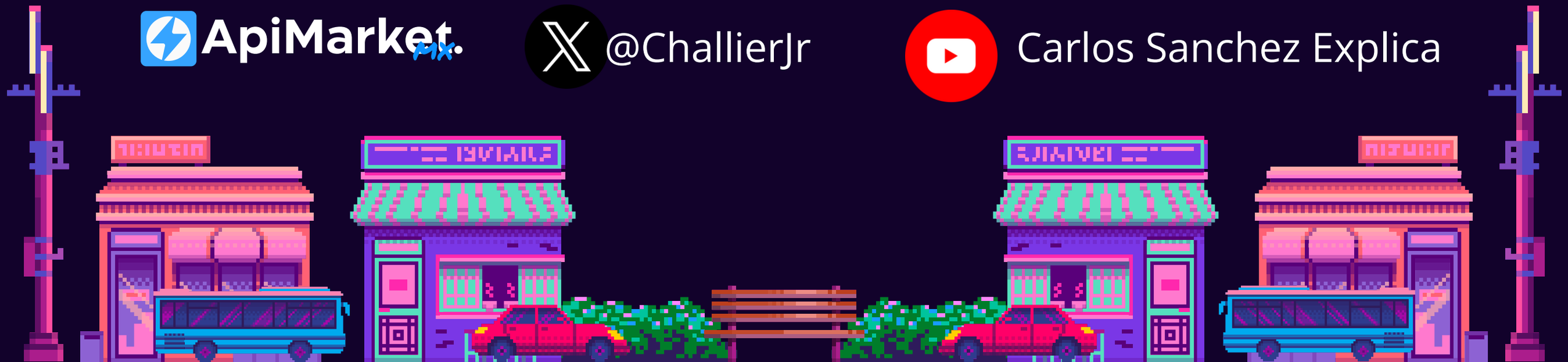
DETECCIÓN DE FRAUDE CON SERIES DE TIEMPO, MACHINE LEARNING Y PYTHON

ApiMarket.mx

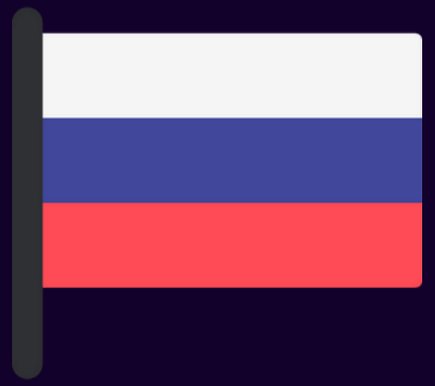
@ChallierJr

Carlos Sanchez Explica



BLACKBOX

SITUACIÓN 1



8 PM

10 PM

SITUACIÓN 2

LUNES 10 PM

Y

MIÉRCOLES 6 AM

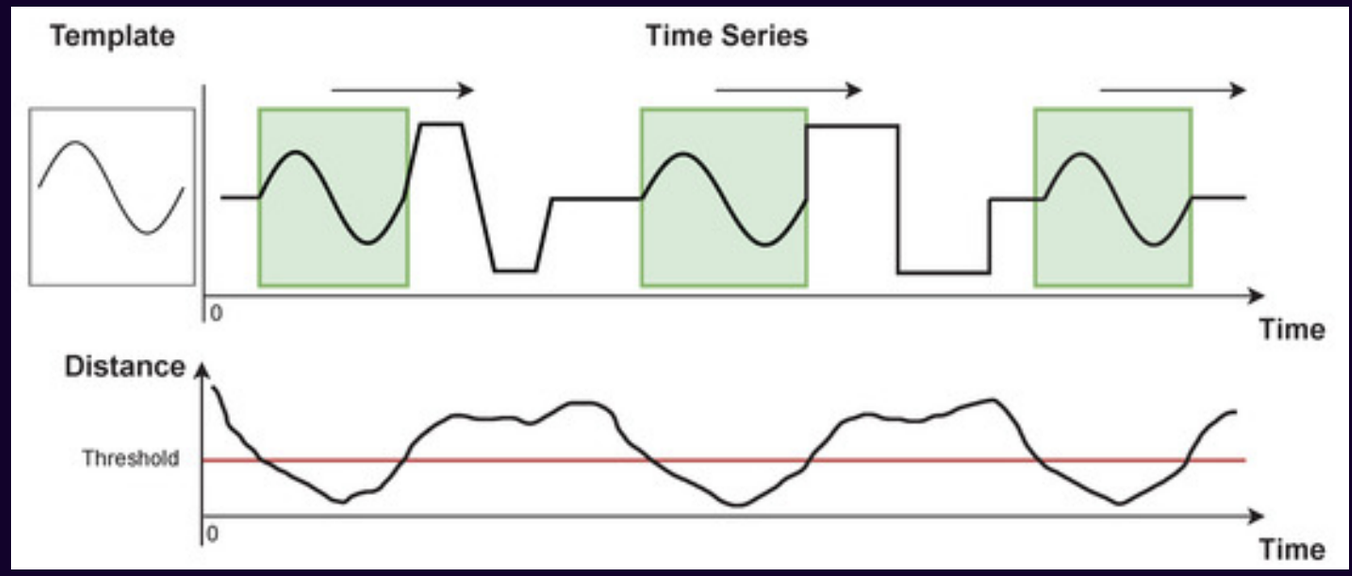
ANOMALÍA

01 ATÍPICO

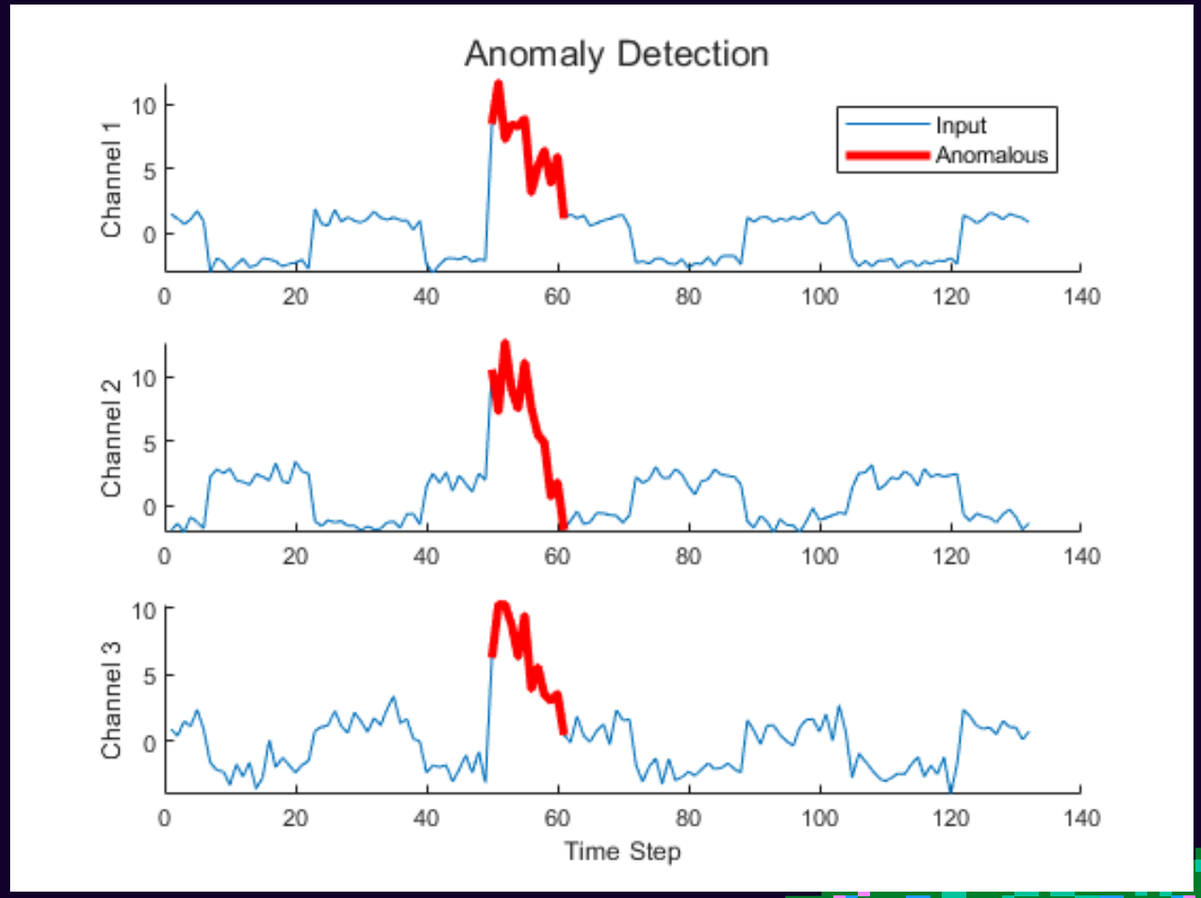
02 NO ESPERADO

03 INUSUAL

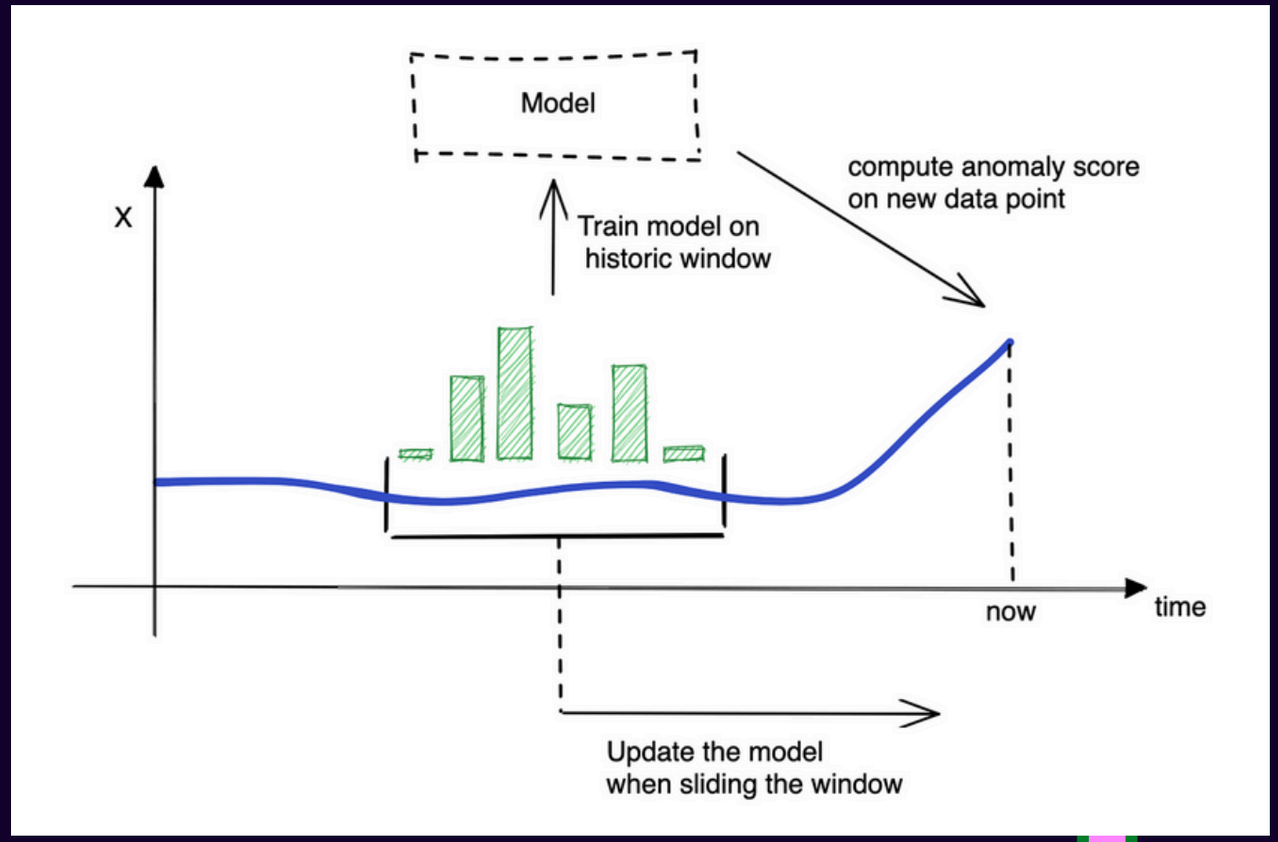
ANOMALY DETECTION



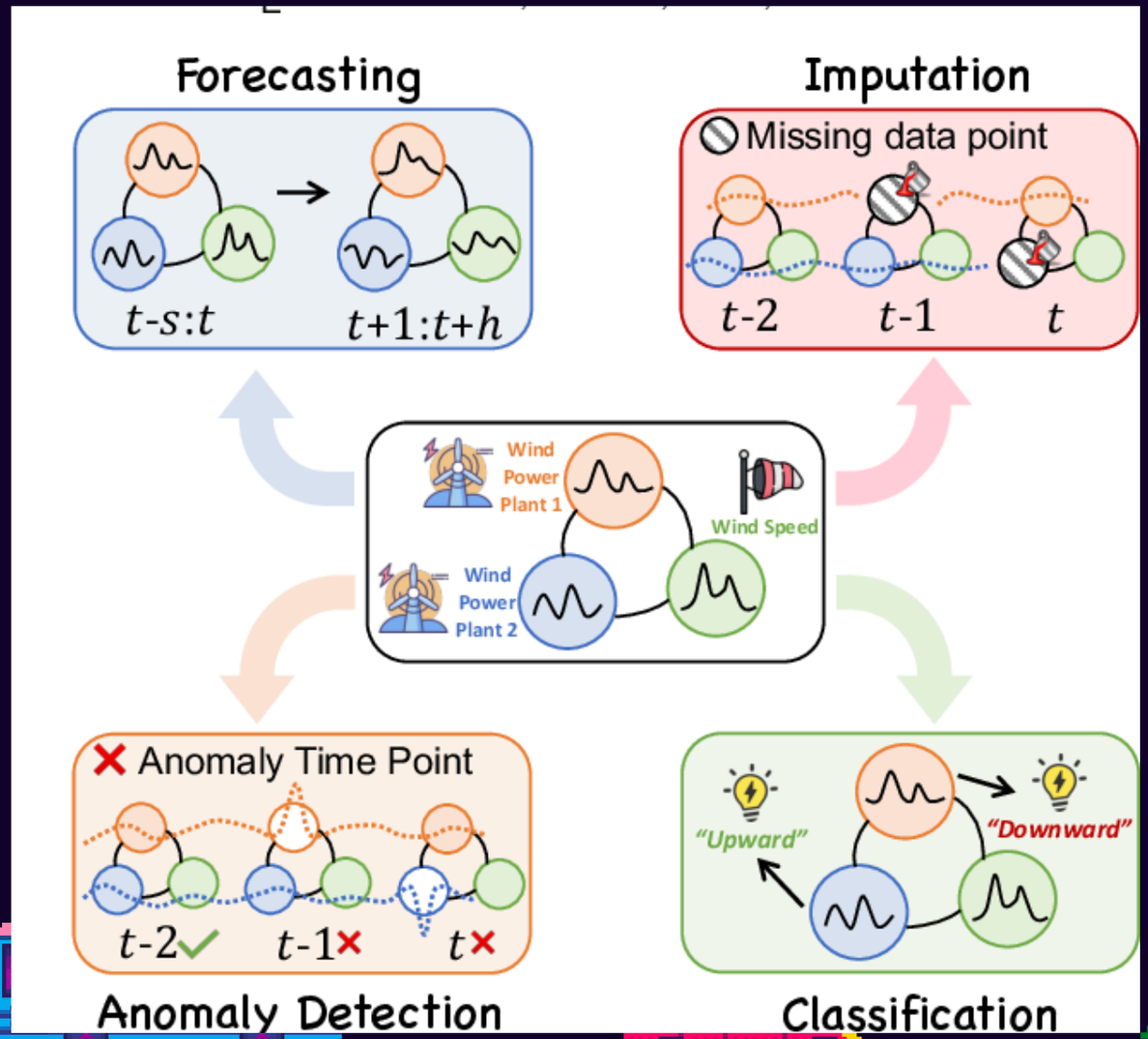
ANOMALY DETECTION



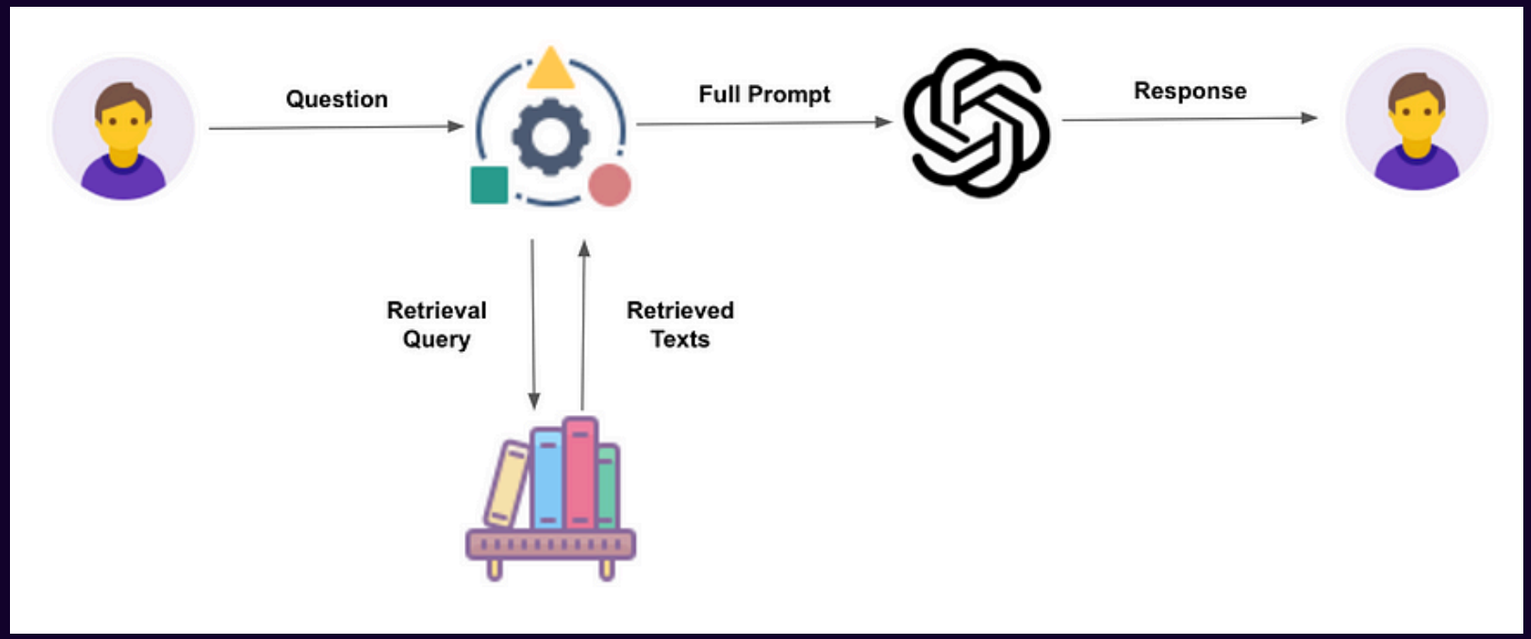
REAL-TIME LEARNING



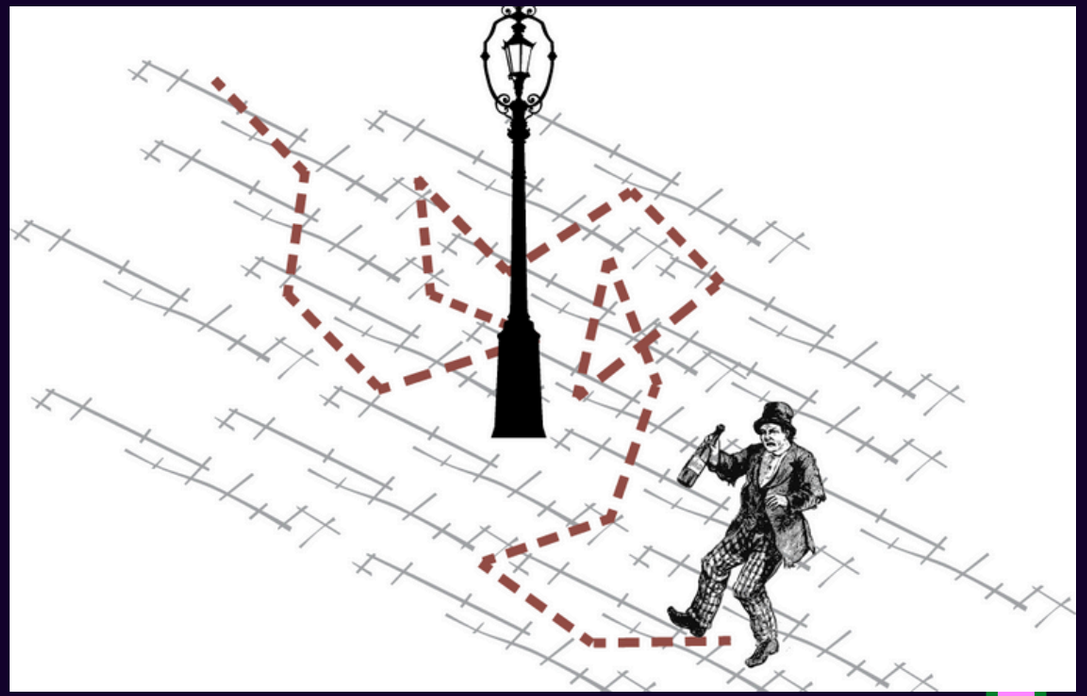
GRAPH + TIME SERIES



APPLICATION RAG



¿QUÉ ES UNA SERIE DE TIEMPO?



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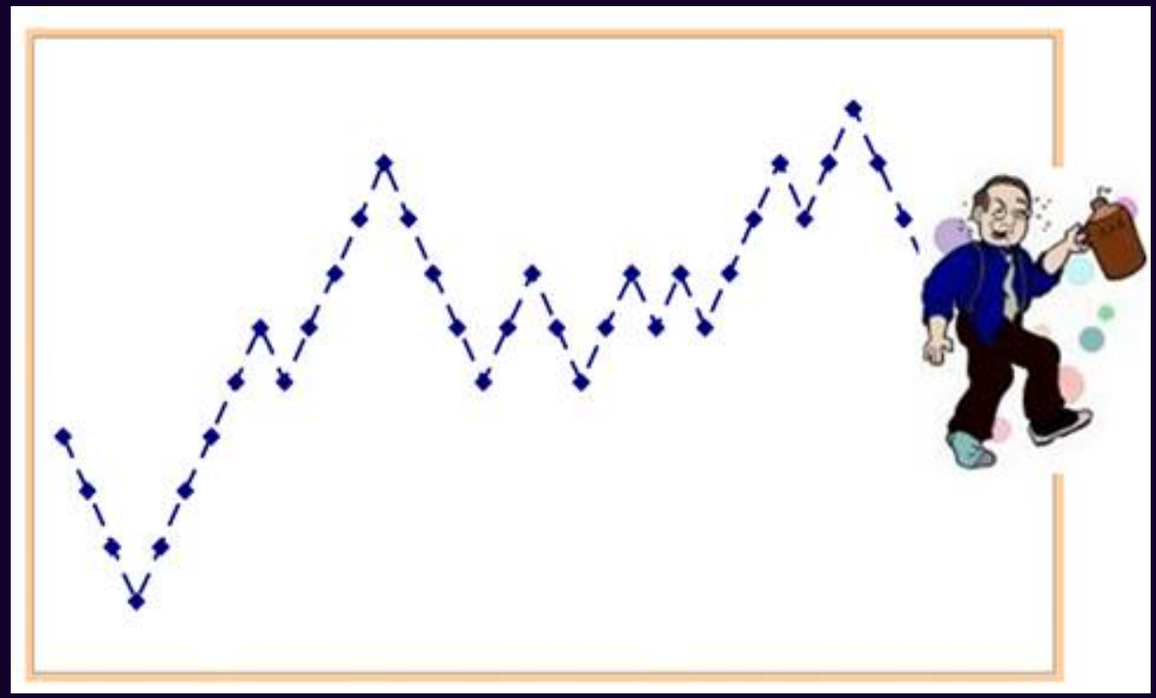
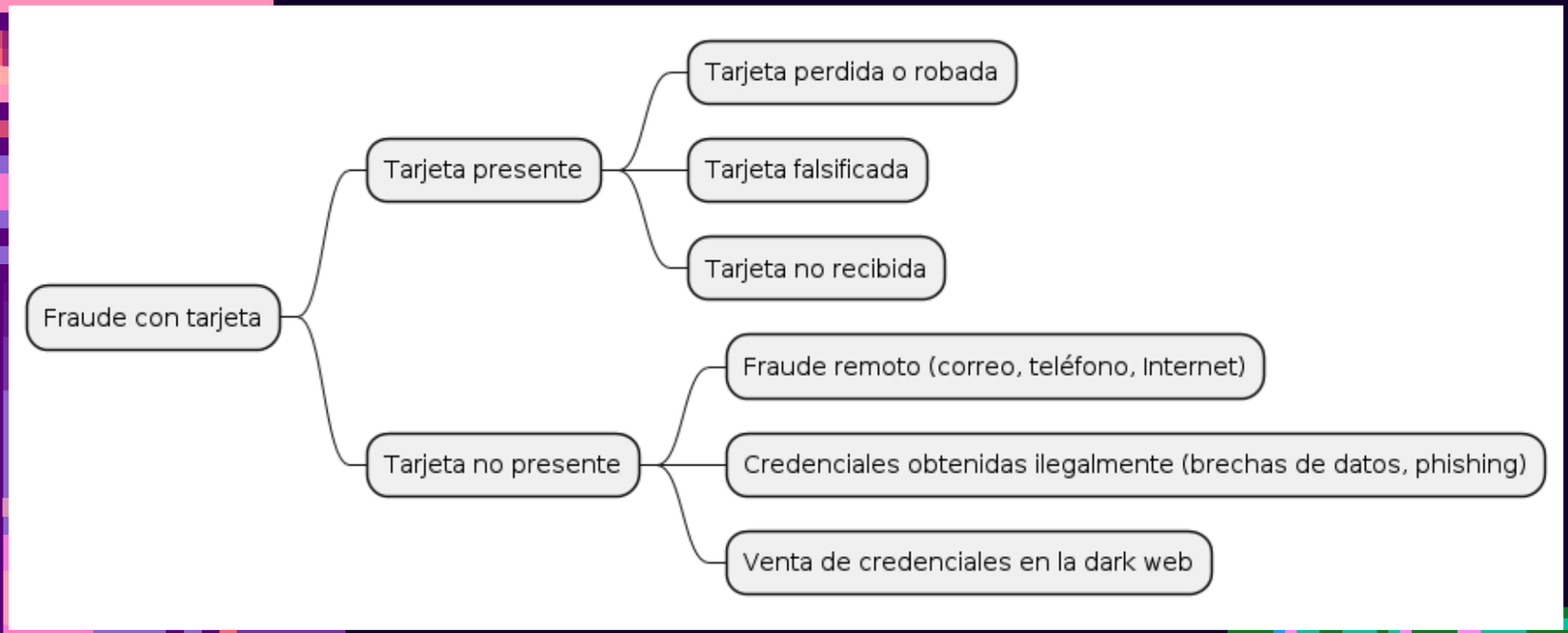
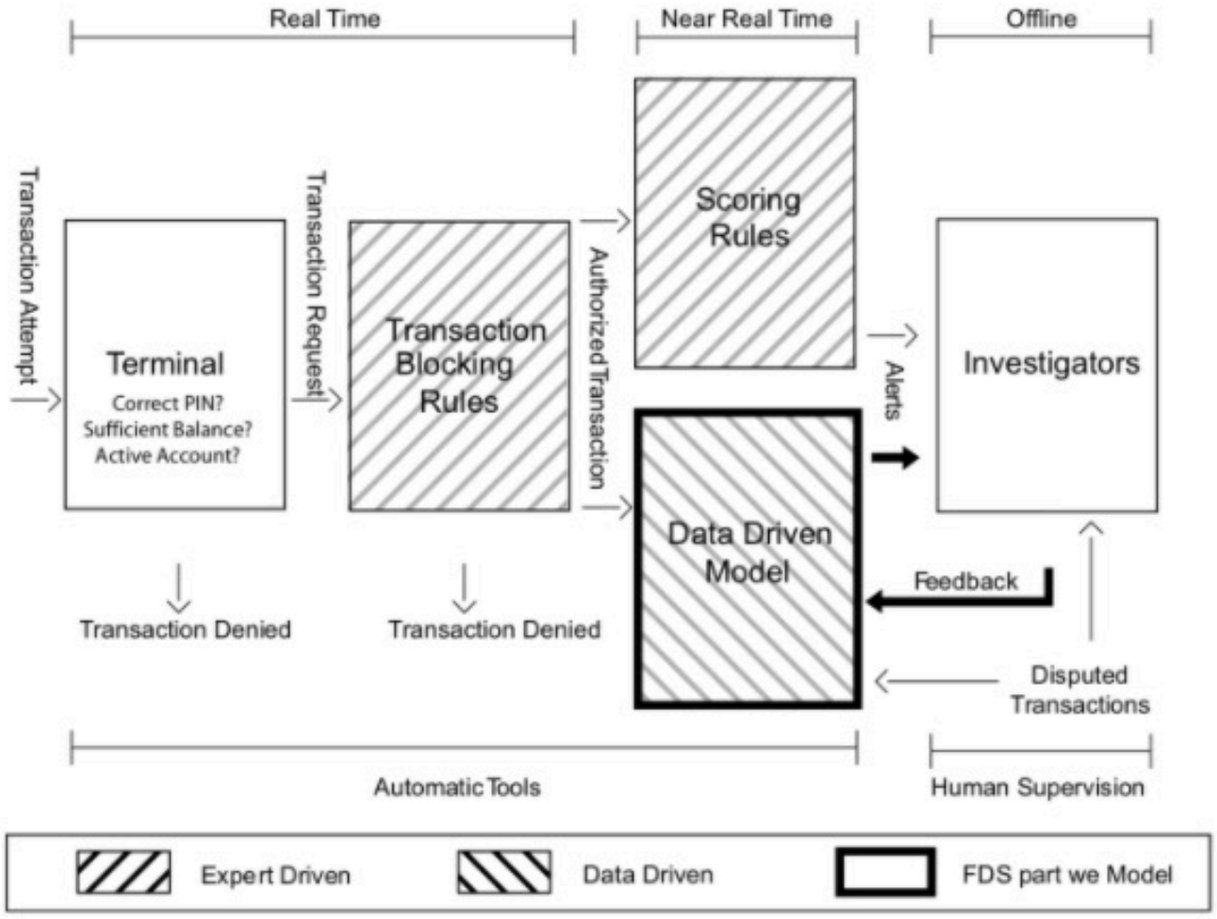


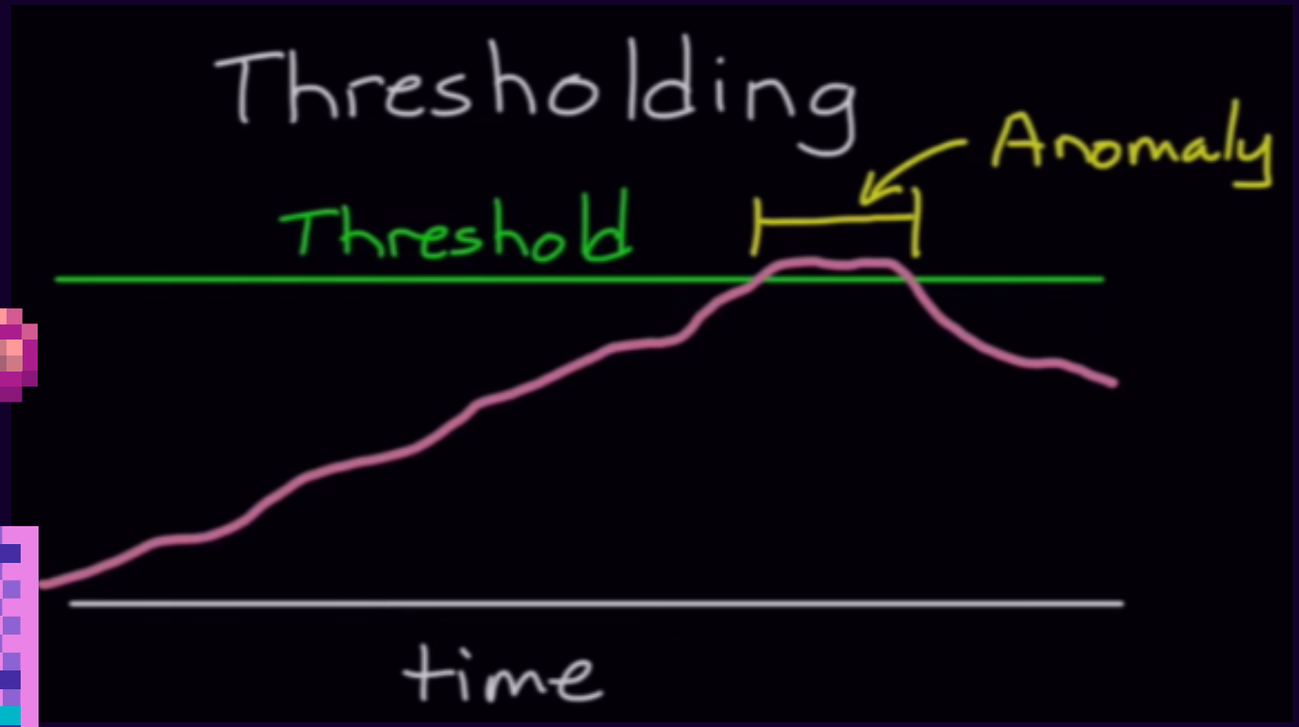
¿QUÉ ES UN FRAUDE DE TARJETA?



FRAUD DETECTION SYSTEM (FDS) DP15, DPBC+17



TS ANOMALY DETECTION



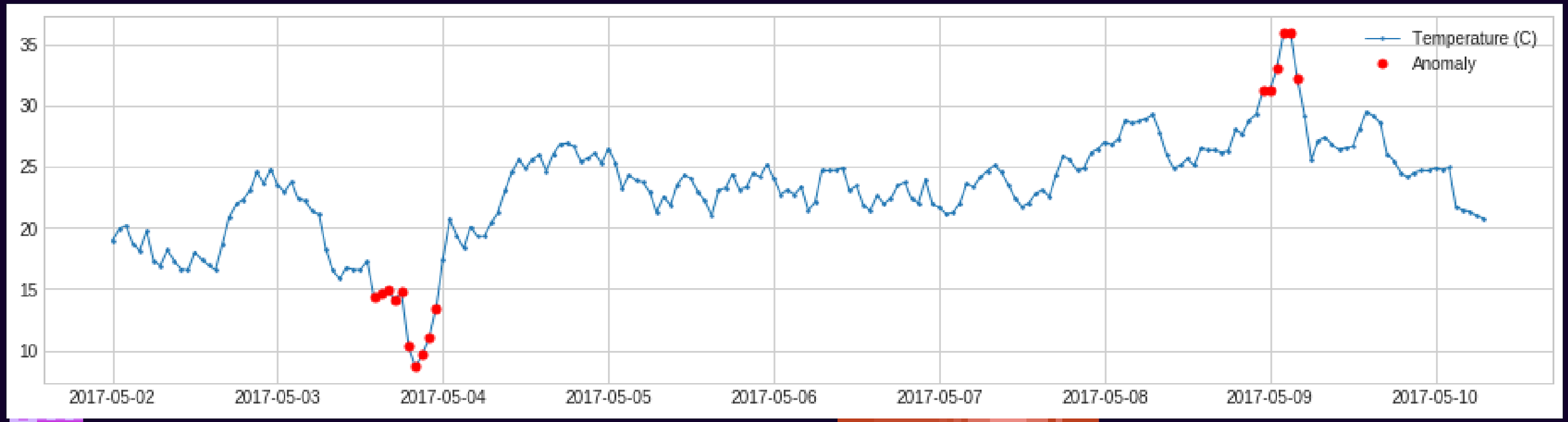
TS ANOMALY DETECTION

ANOMALY DETECTION TOOLKIT (ADTK)

THRESHOLD AD
QUANTILE AD
VOLATILTY
SEASONAL
PCA
...

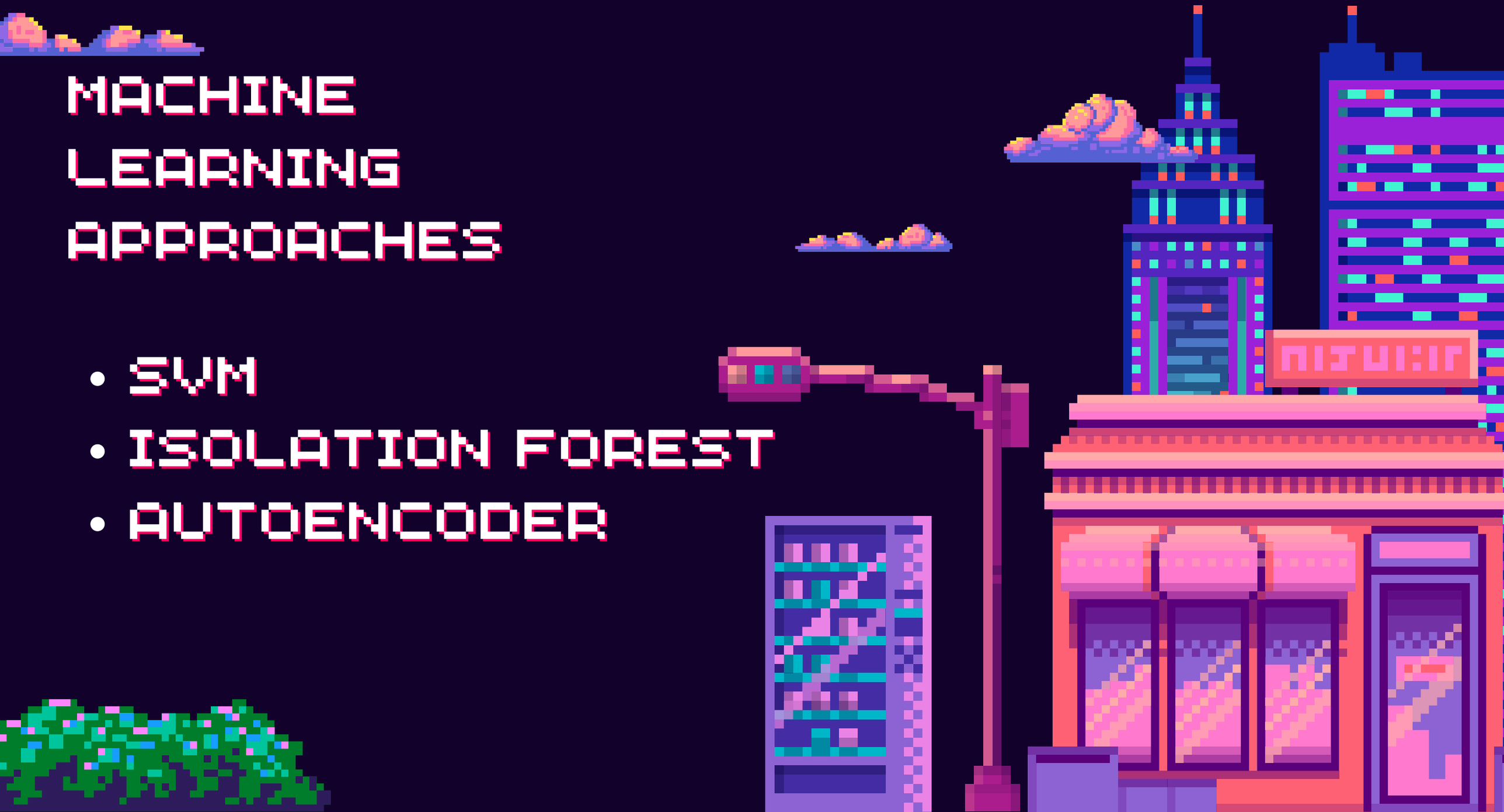
ANOMALY DETECTION TOOLKIT (ADTK)

```
from adtk.detector import ThresholdAD
threshold_ad = ThresholdAD(high=30, low=15)
anomalies = threshold_ad.detect(s)
```



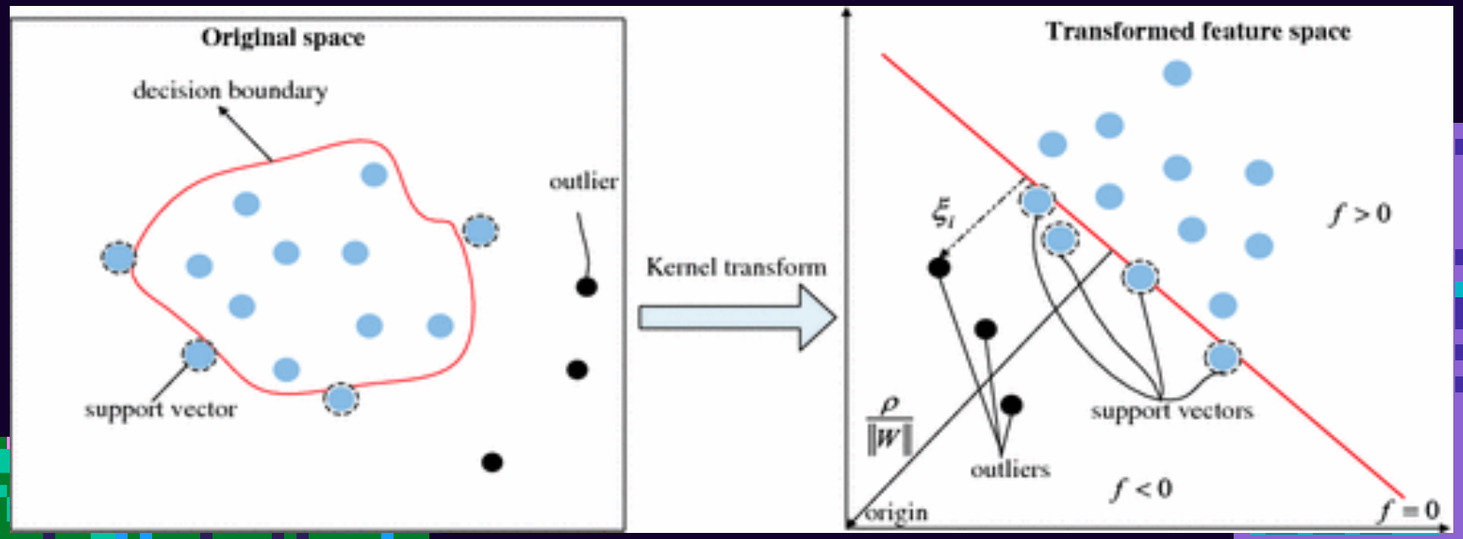
MACHINE LEARNING APPROACHES

- SVM
- ISOLATION FOREST
- AUTOENCODER



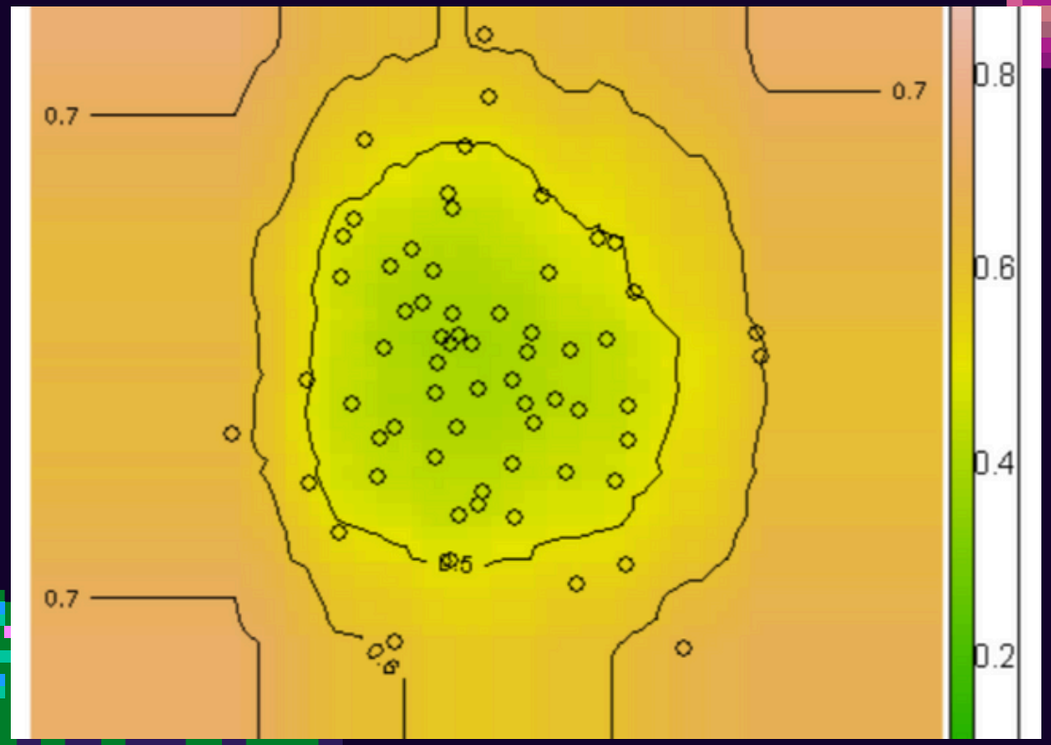
MACHINE LEARNING APPROACHES

- SVM



MACHINE LEARNING APPROACHES

- ISOLATION TREE



Isolation Forest

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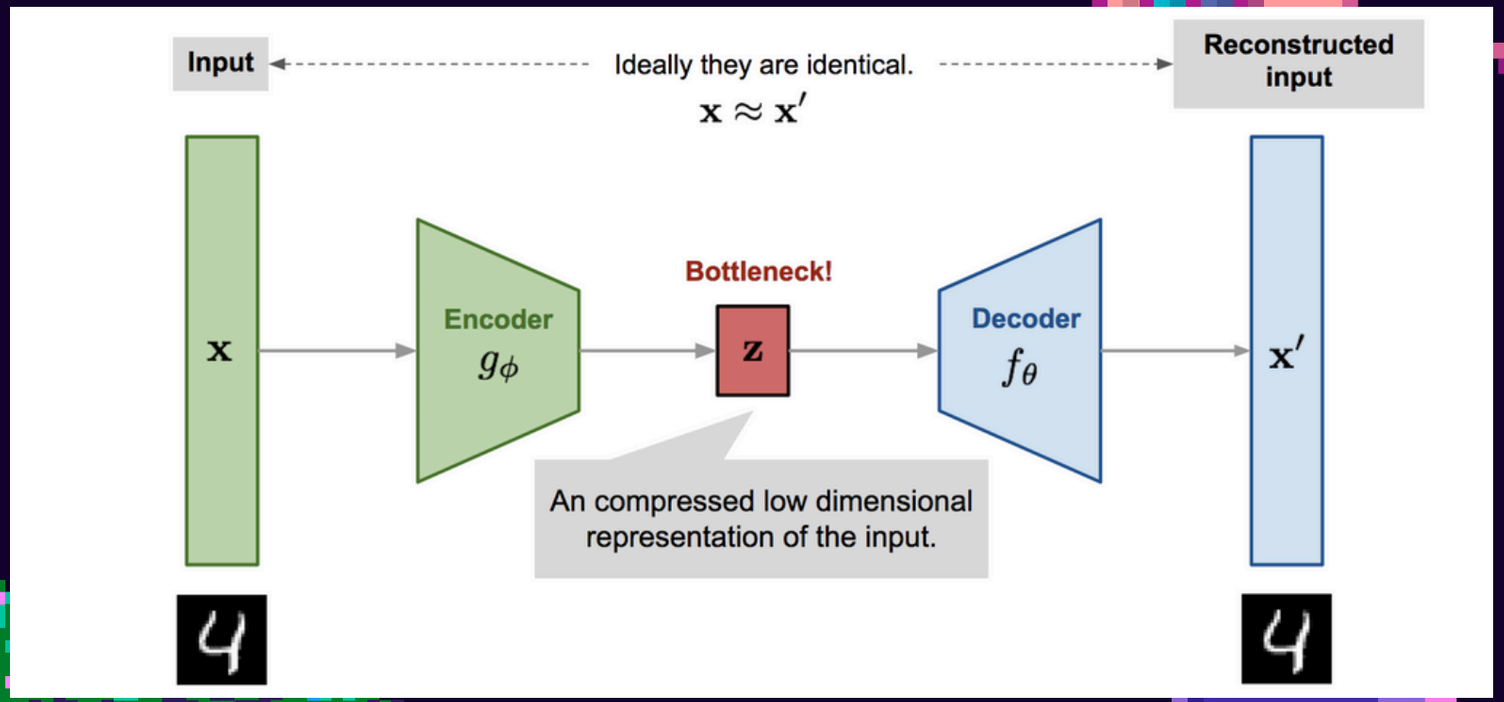
MACHINE LEARNING APPROACHES

- AUTOENCODERS




DEMO
TIME

PROJECT

AEON (PYTHON)

CREDIT CARD FRAUD DETECTION DATASET

github.com/sanchezcarlosjr/jaulacon2024-anomaly-detection

CONCLUSIONES

LOS LLMS NO SOPORTAN TS

TS UNA MANERA DE MODELAR AD

IMBALANCE EN AD

REFERENCES

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PREGUNTAS?