Actual

Pred	Not fraud	fraud
N·F	227354	92
F	108	285

→ fraud

Accuracy =

Accuracy = $\frac{TP + TN}{Total}$ → Accuracy %

failing when we have imbalanced dataset

→ 99.1

(1)

Predicted \ Actual	+ve	-ve
+ve	TP	FP
-ve	FN	TN

Total Act | F-ve | T-Ve

Fraud N·F

	Fraud	N·F
T	TP	F·P
F	F·N	TN

NF P

T

F

Correct

(2)

Recall ⇒ $\frac{TP}{TP + FN}$ ⇒ Total +ve Predictions / Out of all the Total actual +ve

Sensitivity ⇒ T.P.R.

Specificity ⇒ T.N.R → $\frac{TN}{T\cdot N + F\cdot P}$ = ⇒ $\frac{TP}{TP + FN}$

TN

Precision ⇒ $\frac{TP}{TP + FP}$ ⇒ Total how much is correctly predicted / Total Predicts.

(3)

Precision

⇒ from all the classes we have predicted as +ve, how many are actually +ve.

f-Score = $\frac{2 \times \text{Recall} \times \text{Precision}}{\text{Recall} + \text{Precision}}$

Predict \ Actual	N·F	F
N·F	229359	92
F	108	286

	F	N·F
F	286	108
N·F	92	229356

Recall ⇒ $\frac{229359}{229359+108}$ ⇒ 0.99

Precision = $\frac{229359}{229359+92}$ = 0.99

fscore ⇒ $\frac{2 \times 0.99 \times 0.99}{0.99+0.99} = \frac{1.9602}{1.98}$

⇒ 1

Precision ≈ 0.72

Recall ≈ 0.75 f1 ⇒ 0.73