BUSINESS ANALYTICS

TYPES OF METHODS

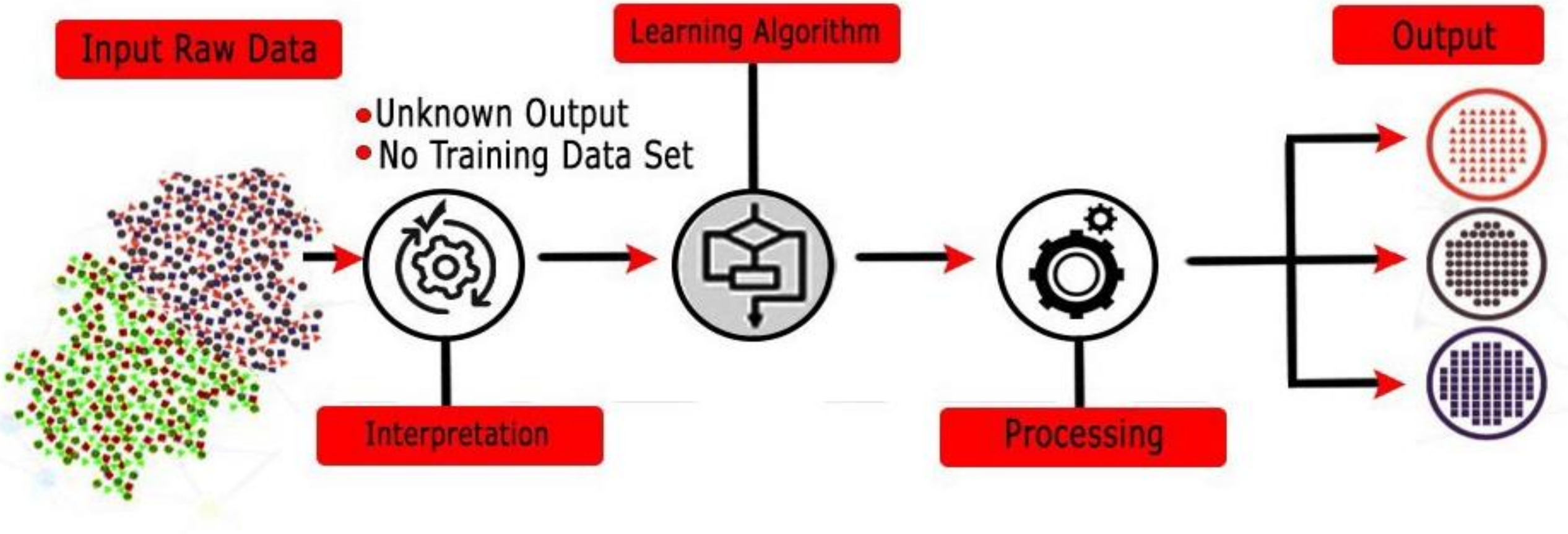
Supervised Learning

- Prediction (Numerical Y)
- Classification (Categorical Y)

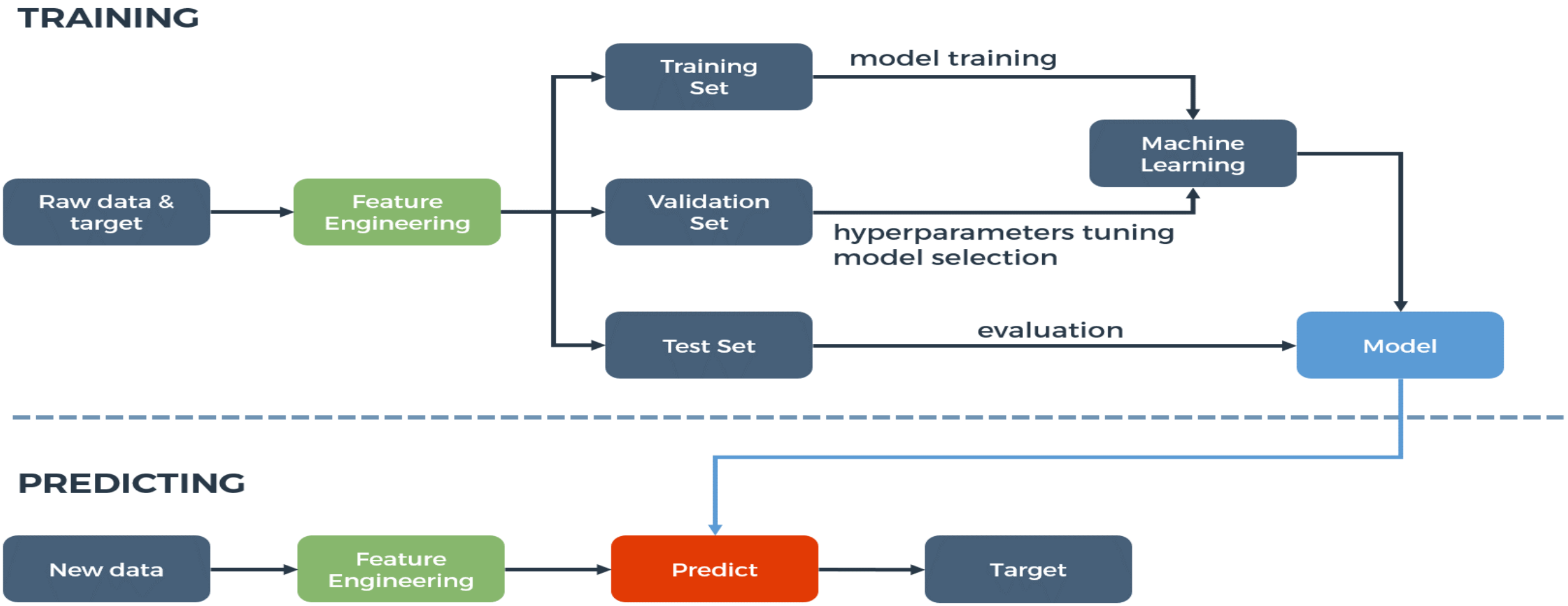
Unsupervised Learning

- Dimension Reduction
- Segmentation
- What goes with what?

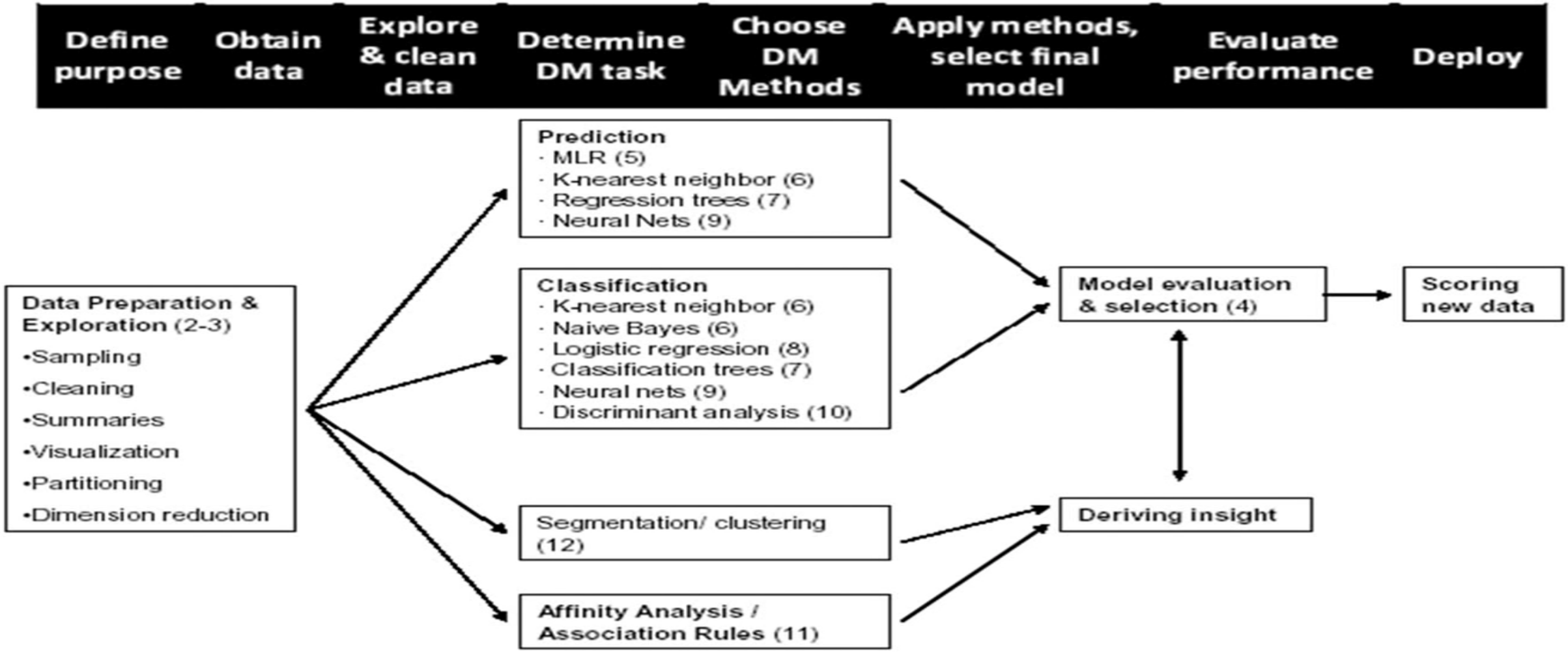
UNSUPERVISED LEARNING



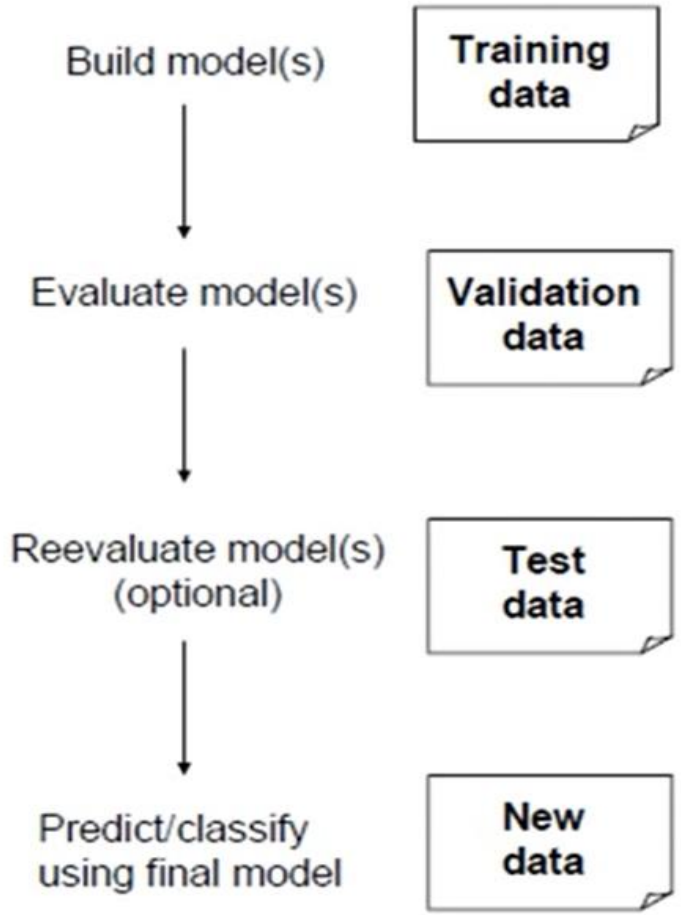
SUPERVISED LEARNING



MODEL BUILDING PROCESS



DATA PARTITIONING



DATA PREPARATION

- Data collection
- Understanding data
  - Data dictionary
  - Data types
  - Range of variables
  - Duplication
  - Outliers
- Choice of variables
- Choice of scales
- Missing values
- Creating derived variables

PERFORMANCE EVALUATION : CLASSIFICATION CONFUSION MATRIX

Confusion Matrix

		Predicted Class	
		No	Yes
Observed Class	No	TN	FP
	Yes	FN	TP

TN	True Negative
FP	False Positive
FN	False Negative
TP	True Positive

Model Performance

Accuracy	= (TN+TP)/(TN+FP+FN+TP)
Precision	= TP/(FP+TP)
Sensitivity	= TP/(TP+FN)
Specificity	= TN/(TN+FP)

Confusion/Classification Matrix

Cut off Prob.Val. for Success (Updatable)	0.5

Classification Confusion Matrix		
	Predicted Class	
Actual Class	success	failure
success	800	80
failure	20	100