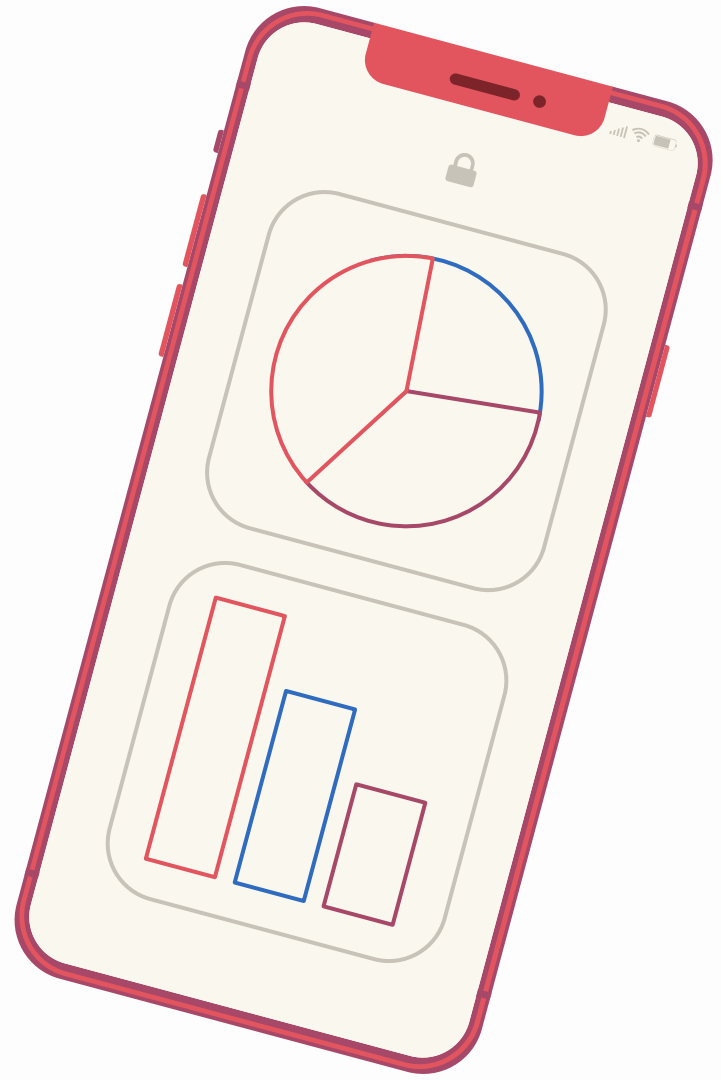# Mobile Price Classification

Presented By:

Mashhood Syed
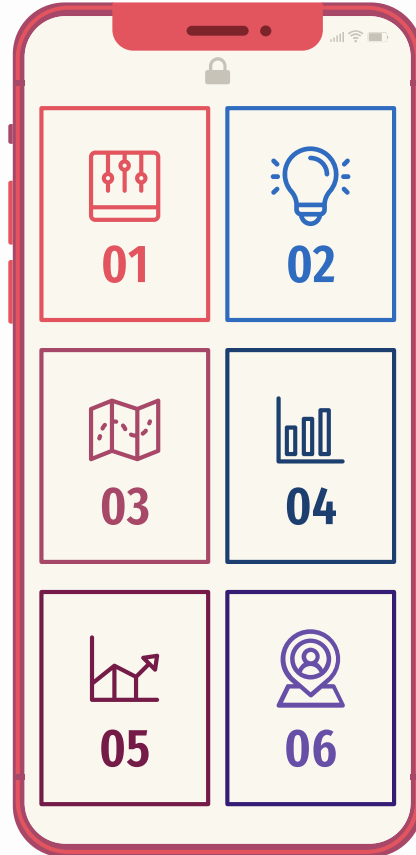Maimoona Khilji

Mobile Features

Usage

Battery Power, Talk Time

Mobile Body

weight, Screen width, Height, Touch Screen

Camera

Primary and Front Camera Pixels, Pixel Resolution Height and Width

01

02

03

04

05

06

Memory

RAM, Internal Memory, Number of Cores

Mobile connectivity
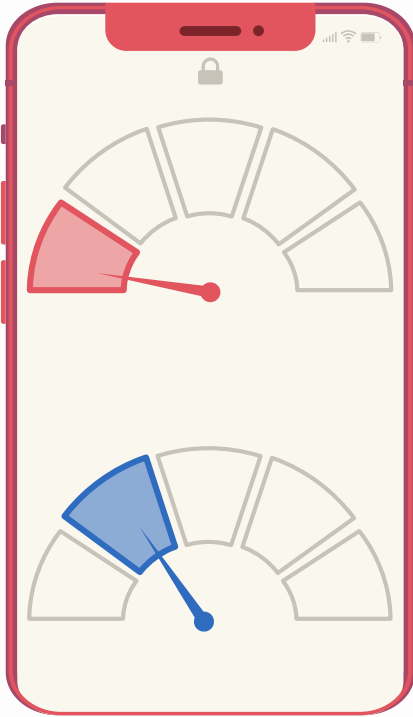
Wi-Fi, 3G, 4G, Bluetooth

Other

Clock Speed, Dual Sim

Machine Learning Model Comparison

Data Preprocessing

Numerical to Polynominal
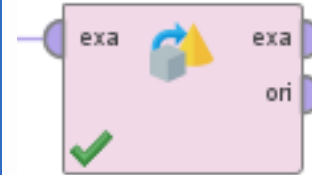This operator changes the type of selected numeric attributes to a polynominal type

Map:
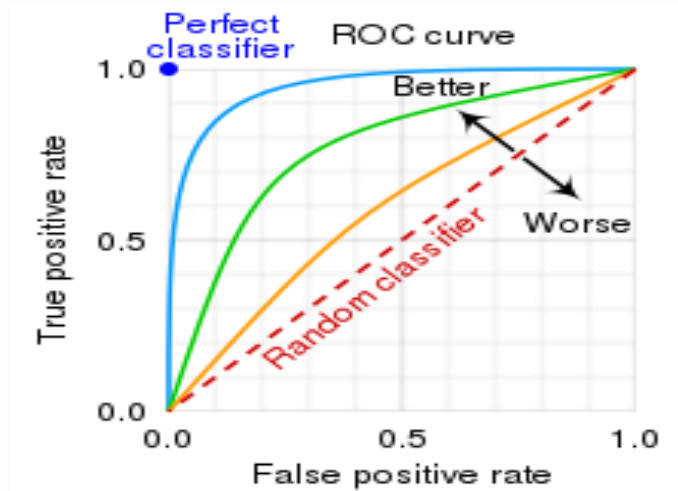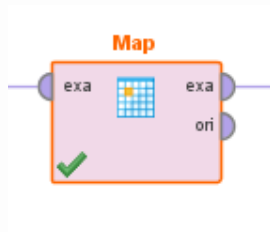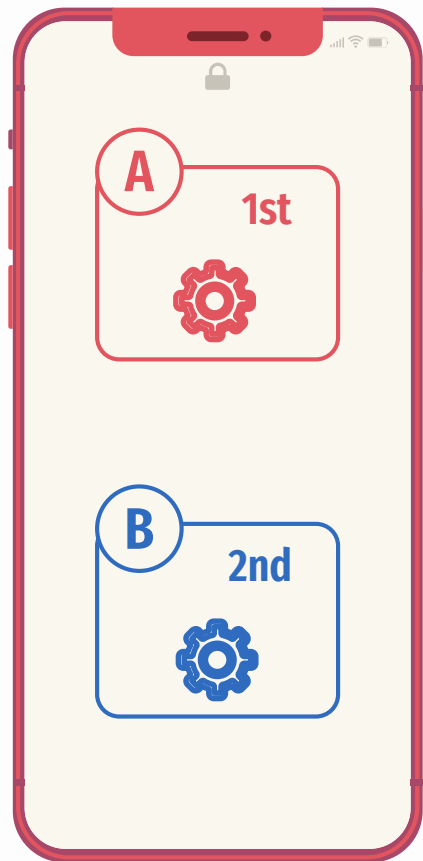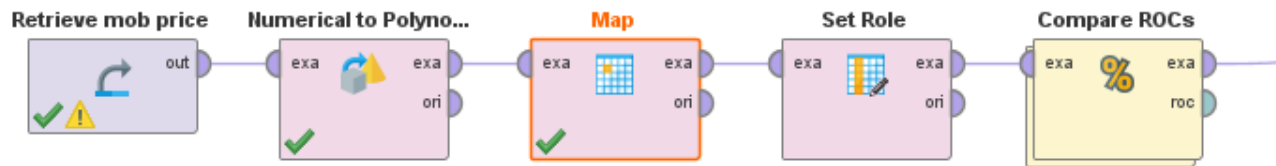This operator maps specified values of selected attributes to new values

Roc Curve

- ROC curve works for only binary classification problems, it helps us visualize how well our machine learning classifier is performing.
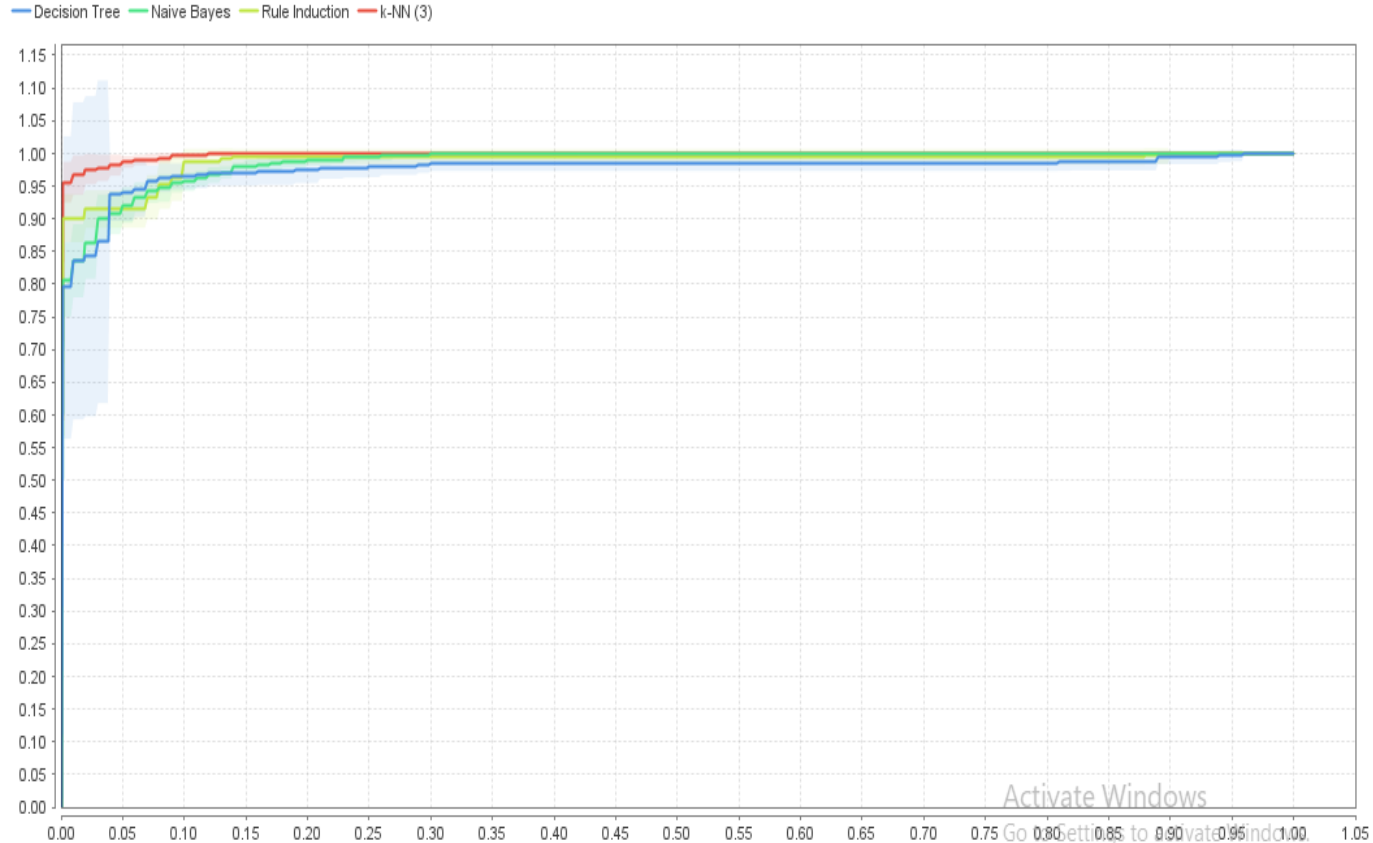
ROC Curve

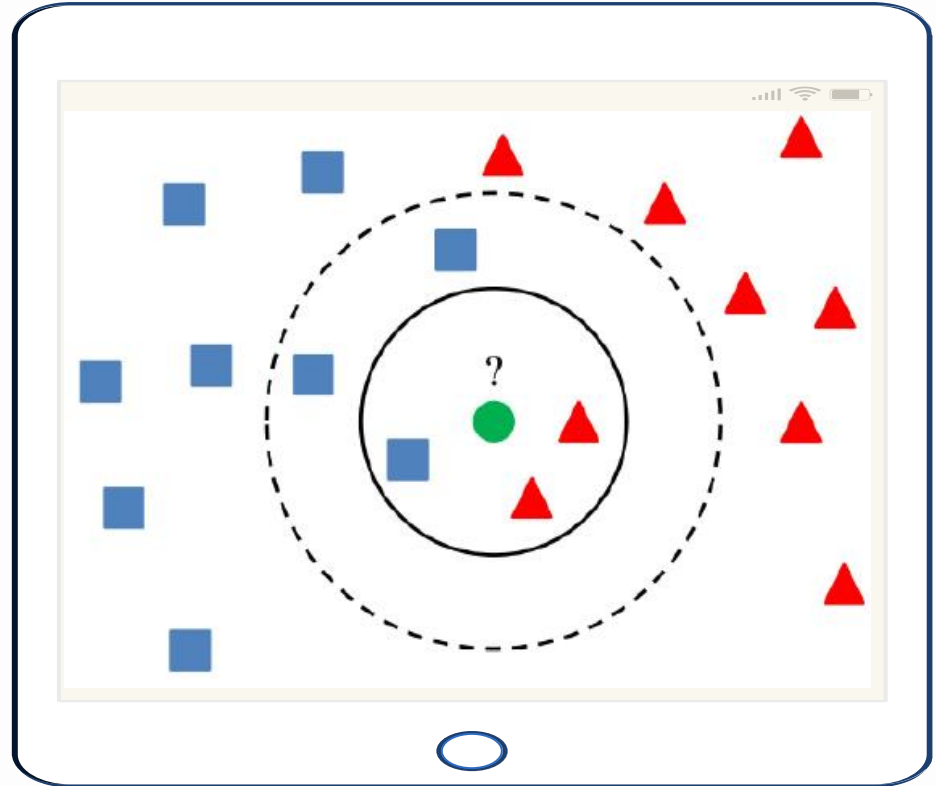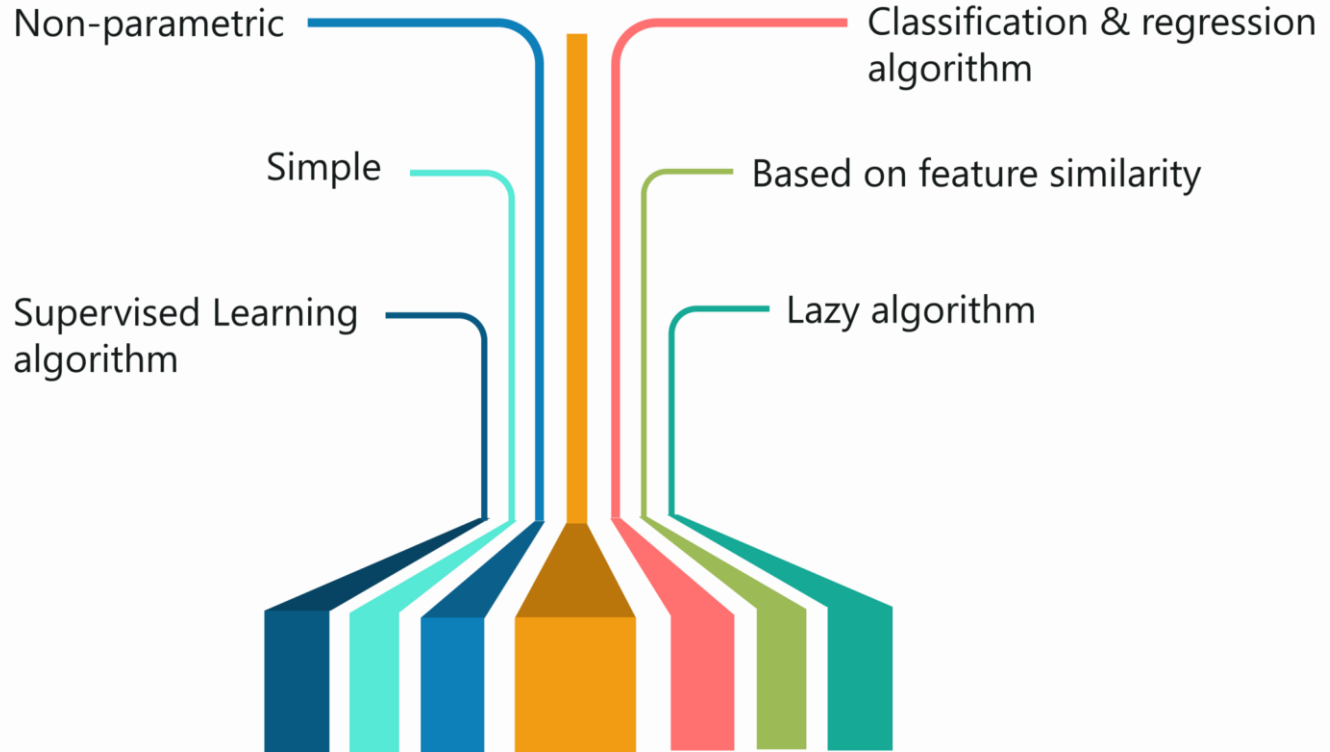| old values	new value
0	low
1	low
2	high
3	high

Roc Curve

K – Nearest Neighbours

The k-nearest neighbors (KNN) algorithm is
- a simple
- supervised machine learning algorithm
- used to solve both **classification** and **regression** problems.

Features of KNN

Non-parametric

Classification & regression algorithm

Simple

Based on feature similarity

Supervised Learning algorithm

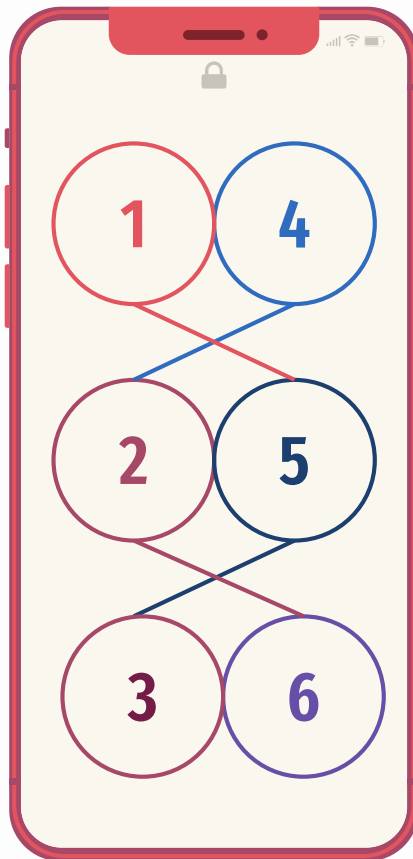Lazy algorithm

How KNN Works?

Value of K

Initialize and Define K

Distance

Calculate Distance using Euclidean and Manhattan

Sort

Sort Distances

Select neighbour

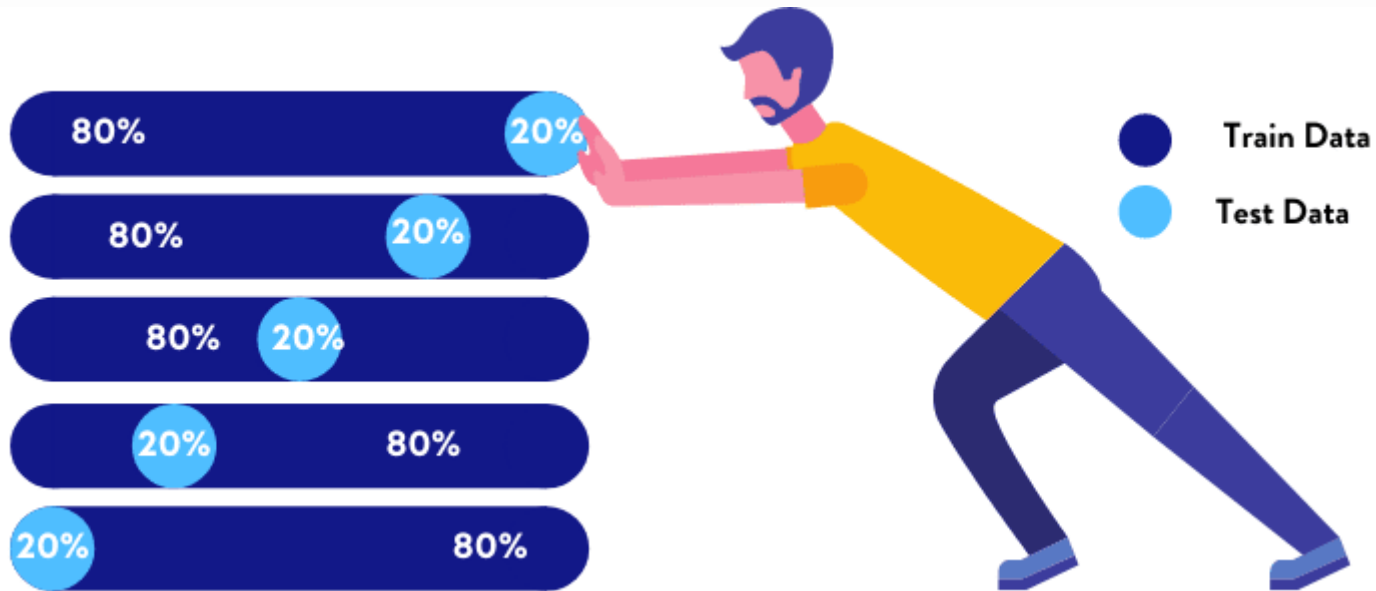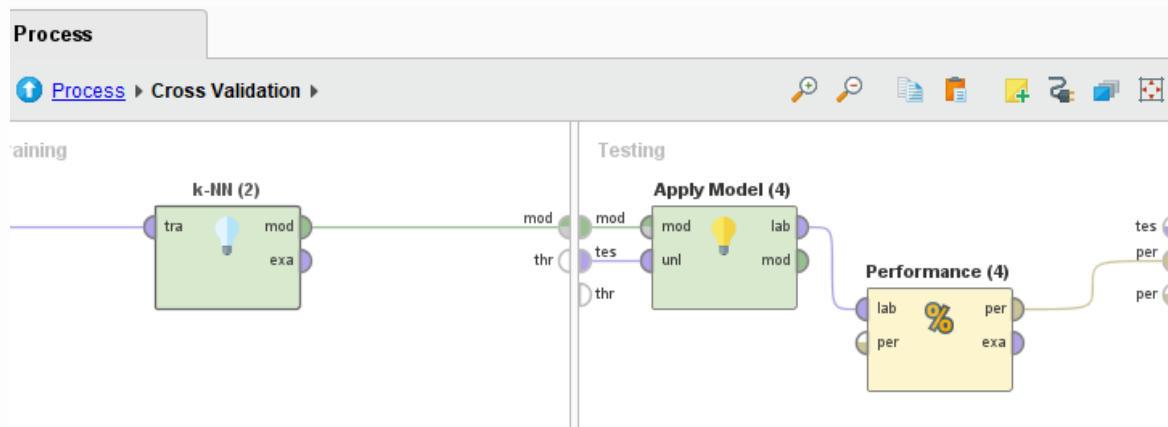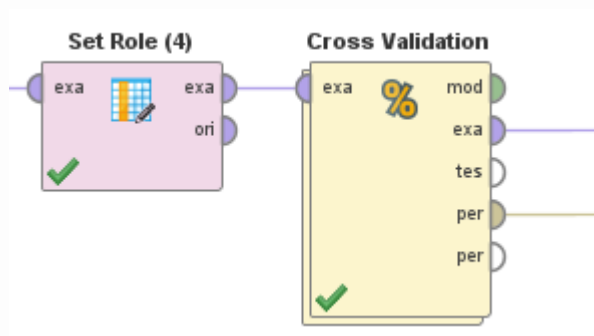Take K nearest Neighbour
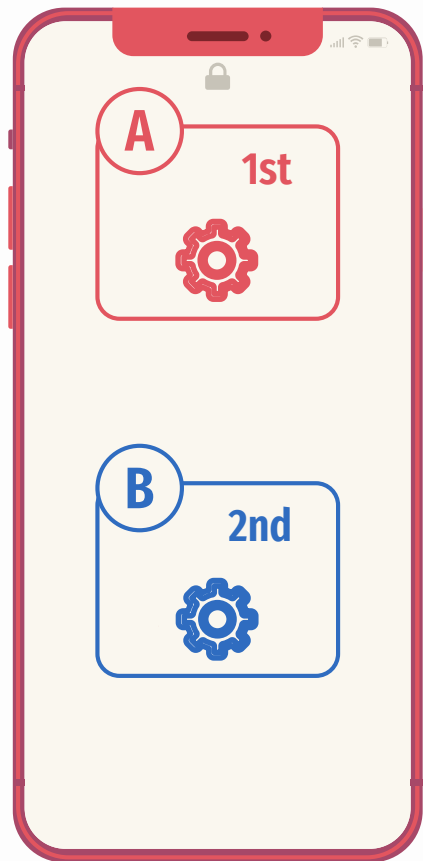
Vote

Vote for the Neighbours

Classification

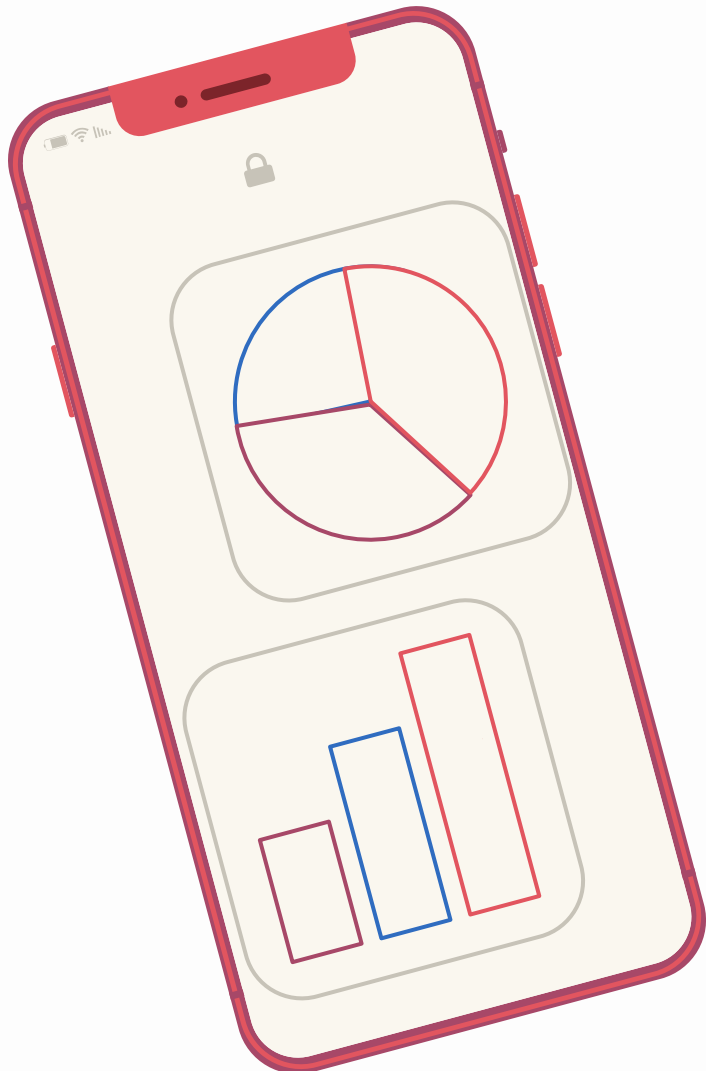Finalize the result

Cross Validation

80% 20%
80% 20%
80% 20%
20% 80%
20% 80%

Train Data

Test Data

Cross Validation Process

KNN

accuracy: 93.90% +/- 1.87% (micro average: 93.90%)

	true medium	true high	true very high	true low	class precision
pred. medium	463	28	0	11	92.23%
pred. high	19	454	28	0	90.62%
pred. very high	0	18	472	0	96.33%
pred. low	18	0	0	489	96.45%
class recall	92.60%	90.80%	94.40%	97.80%	

Thank You