**Market Positioning of Mobile**

**Abstract:**

There is a new mobile company and the CEO wants to give a tough fight to big companies like Apple, Samsung etc. He has no idea of how to estimate the price of mobiles his company creates. A simple assumption of the prices will not be profitable in this competitive world. To solve this problem he collects sales data of mobile phones of various companies. Thus, the CEO has hired you to find out some relation between features of a mobile phone(eg:- RAM, Internal Memory etc) and its selling price

**Problem Statement:**

Predict a price range, indicating how high the price is, using K-Nearest Neighbors algorithm.

**Dataset Information:**

| Column | Description |
| --- | --- |
| battery\_power | Total energy a battery can store in one time measured in mAh |
| clock\_speed | The speed at which microprocessor executes instructions |
| fc | Front Camera megapixels |
| int\_memory | Internal Memory in Gigabytes |
| m\_dep | Mobile Depth in cm |
| mobile\_wt | Weight of the mobile phone |
| n\_cores | Number of cores of a processor |
| pc | Primary Camera megapixels |
| px\_height | Pixel Resolution Height |
| px\_width | Pixel Resolution Width |
| ram | Random Access Memory in MegaBytes |
| sc\_h | Screen Height of mobile in cm |
| sc\_w | Screen Width of mobile in cm |
| talk\_time | The longest time that a single battery charge will last when you are |
| price\_range | This is the target variable with the value of 0(low cost), 1(medium cost), 2(high cost) and 3(very high cost). |

**Scope:**

* Prepare and analyse data, treat outliers and missing values
* Check the distribution of key numerical variables
* Training a KNN with data and check it’s performance
* Getting an optimized number of neighbours

**Learning Outcome:**

The students will get a better understanding of how the variables are linked to each other and how the EDA approach will help them gain more insights and knowledge about the data that we have and classify the data into similar groups using KNN algorithm.