Mobile Price Range Prediction

Delivery 2

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Project Overview

- Use *Mobile Price Classification* dataset to build models to predict the price range indicating how high the price is of mobile phone base on mobile specifications

Related Findings

- “Exploring the Factors That Influence Consumer’s Purchase Of Mobile Phones”
- Brand loyalty, price, quality, social influence and mobile features are five factors
- Brand loyalty > Quality> Price> Mobile Features=Social Influence.

- Authors:

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Lim Lye Hock,

Intan Maizura Abd Rashid ,

Syahira Saaban ,

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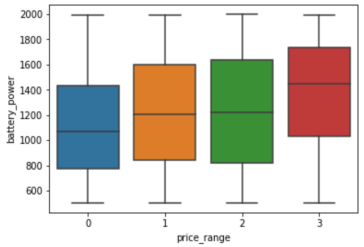
Similar Project

- “Mobile price prediction” by Vikramaditya SIngh Bhati

Battery power vs Price Range

```
In [12]: sns.boxplot(x="price_range", y="battery_power", data=dataset)

Out[12]: <matplotlib.axes._subplots.AxesSubplot at 0x7ff5c9ffc4e0>
```



- Same dataset, same results
- Different analysis methods and models

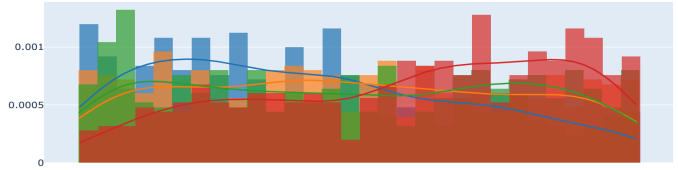
Battery Power Density Plot

It looks like an import feauture. Higher battery power tends to have higher price.

```
]: hist_data = [np.array(train_data.loc[train_data["price_range"] == 0, "battery_power"]),
                np.array(train_data.loc[train_data["price_range"] == 1, "battery_power"]),
                np.array(train_data.loc[train_data["price_range"] == 2, "battery_power"]),
                np.array(train_data.loc[train_data["price_range"] == 3, "battery_power"]),]

group_labels = ['low cost', 'medium cost', 'high cost', 'very high cost']

# Create distplot with custom bin_size
fig = ff.create_distplot(hist_data, group_labels, bin_size=50)
fig.show()
```



Exploratory Data Analysis

- Step 1 : Read the Dataset in jupter notebook.

  0 = low cost, 1=medium cost,

  2=high cost, 3=very high cost

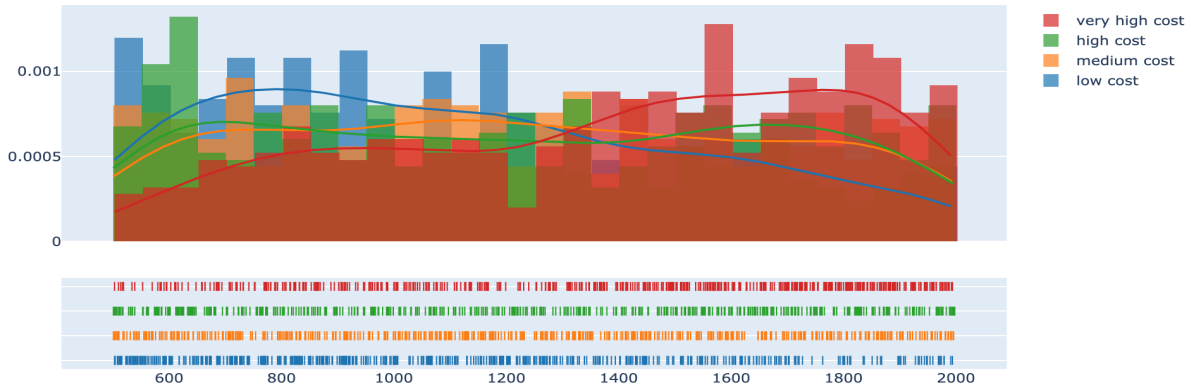
All features in the data

```
: train_data.columns
```

```
: Index(['battery_power', 'blue', 'clock_speed', 'dual_sim', 'fc', 'four_g',
       'int_memory', 'm_dep', 'mobile_wt', 'n_cores', 'pc', 'px_height',
       'px_width', 'ram', 'sc_h', 'sc_w', 'talk_time', 'three_g',
       'touch_screen', 'wifi', 'price_range'],
      dtype='object')
```

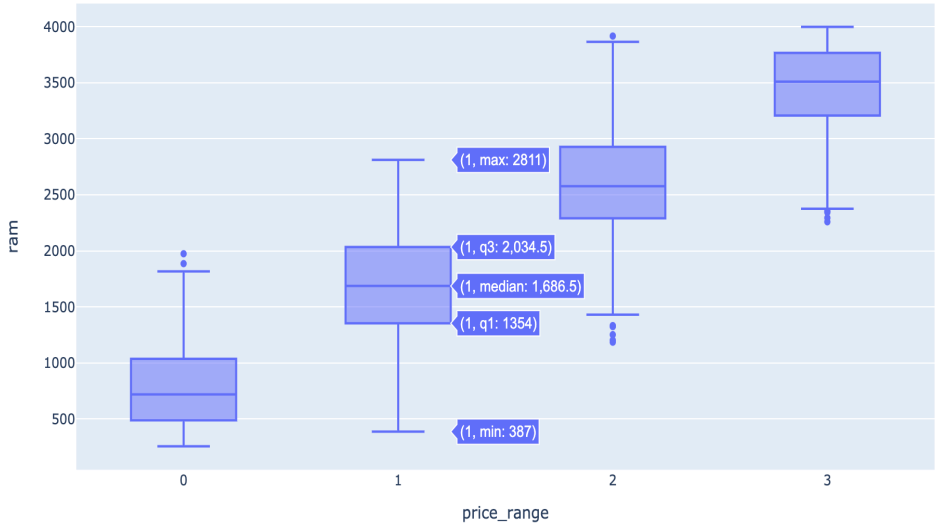
Exploratory Data Analysis

- Higher battery power tends to have higher price.



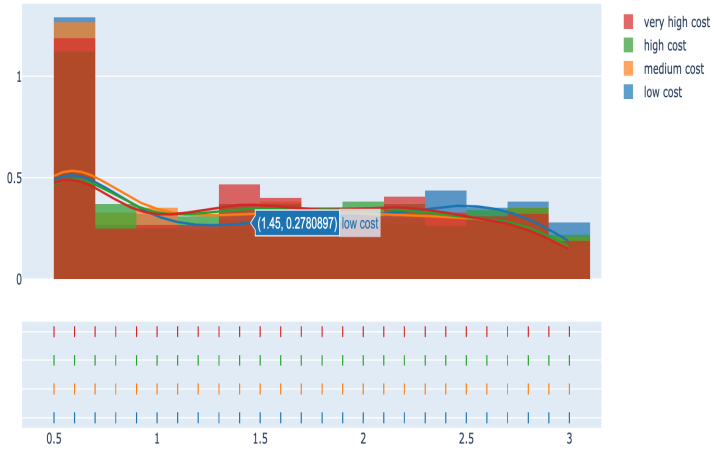
Exploratory Data Analysis

- Higher random access memory in megabytes tend to higher price
- pvalue=o.o

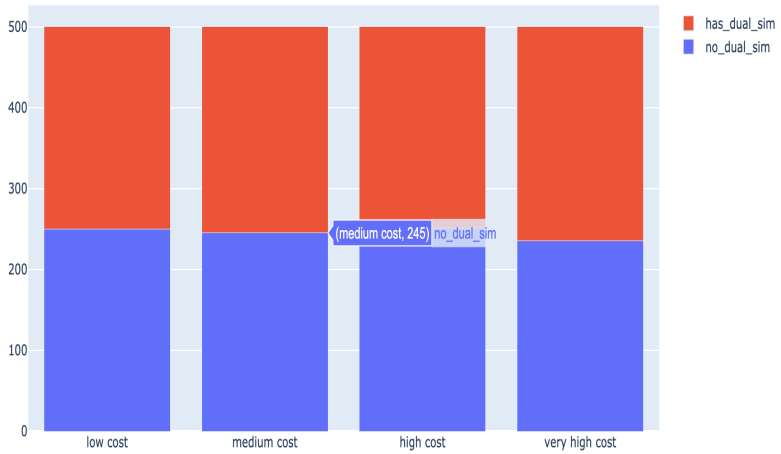


Exploratory Data Analysis

- Most mobile phones have a clock speed between 0.5~0.6.
- p value is 0.68



- Has dual sim card or not won't change the price a lot.



THANKS!

Any questions?

You can find me at:

- siyuw1@umbc.edu
- https://github.com/ciciwang1/DATA606

Credits

- Presentation template by Slide Carnival
- Dataset by Abhishek Sharma
- Research paper by ResearchGate