

AI Proposal

ADMN5016



ARNAB BARUA

SHIV VAIDYA

# **Proposal:**

Our proposal is to help “Cashify” which buys used phones from sellers in the area. Using Machine Learning Algorithms, we are building AI models that would predict the price range of used phones based on the features it provides. This would help reduce the time required for traditional inspection of used phones by our client company to put forth a price quote. Our application will provide a platform where sellers can feed in their smartphone features such as the amount of RAM, touch compatibility, 2G/3G/4G, processor speed, number of CPU cores, camera megapixels, screen resolution, and many more, and AI will quote a price on behalf of our company.

Traditional methods employed by companies are time-consuming and require funds and additional manpower. We aim to eliminate this problem by incorporating technology.

# **Value of Machine Learning Algorithm**

**What problem does it address?**

Presently, Cashify follows an in-person approach, where a representative of the company visits the seller’s place or the seller approaches one of the offices of the company to get their smartphone evaluated. This consumes a considerable amount of time and requires highly trained manpower for price evaluation.

**Size of the market**

Currently, we are focussing on a smaller area such as a city and aiming to expand our business to different provinces.

**Monetary Benefits:**

This AI application will nullify the requirement of staff required for price evaluation and will also eliminate the requirement for funds that go into their training. It will also eliminate their commute expenses.

**Risks associated:**

As AI is not 100% accurate, it can, in certain cases, predict a false price of used phones, which can affect the company in terms of cost and brand image.

**Results from our models:**

We trained three models in total, which are the Decision Tree Classifier, Random Forest and Support Vector Machine. In our analysis, we found out that SVM performed the best in terms of accuracy (98.14%), and f1 score (98.20%), followed by Random Forest (92.54%, 92.32%).

**How much Money can we help our client save?**

On average, it costs Cashify an expense of $2/km travelled by its representative to the seller’s place, who booked an appointment. It is expected that our client will save over $25000 annually in one city.

The cost incurred on training staff:

The company will not only have to hire fewer employees but also will save a considerable amount spent on their annual training.

**Monetary Damage:**

In case of false prediction by our application i.e., if the price quoted is higher than the actual worth of the smartphone, it can negatively affect the company's profit whereas, if the price quoted is lower than the actual worth, it can prevent a potential purchase and can affect the company’s image in the market.

**Other Risks and benefits:**

**Risks:**

* The application will require periodic maintenance to keep it bug-free.
* Possibility of app-crash.

**Benefits:**

* User-friendly interface.
* Cost-saving.
* Effortless for sellers.