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# Identifying Fake Products through A Barcode Using Machine Learning

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**ABSTRACT**—Today's technology makes it possible to find and get information on anything. The more members of the general public who use machine learning technologies, the more data may be obtained. There are now many examples of cosmetic circulation violations in Indonesia. As an illustration, consider the distribution of products without a valid BPOM (Food and Drug Supervisory Agency) registration code that was manufactured fraudulently by unreliable individuals. In addition to the many cases of aesthetic breaches, there have also been changes in people's behaviors, such as shifting consumption patterns (users). The general public still has a very limited understanding of how to choose and use safe products. counterfeit products are detected using a QR code scanner. In this project Python qrcode (Quick Response (QR) code) module are used to decode the qr code information. A consumer can verify the product distribution and ownership information scanning a Quick Response (QR) code. The study's research methodology used the waterfall method and qualitative methodologies. By simply scanning the barcode, as this programme is designed to do, the general public can quickly ascertain whether a cosmetic product is genuine or not before purchasing it.

**KEYWORDS**—Barcode, QR Code, BPOM, Cosmetic, fake product detection, simply scanning the barcode.

## I. INTRODUCTION

### A. Overview

The counterfeit sector is thought to be worth US\$250 billion annually<sup>1</sup> and is expanding, according to the UN. The threat of counterfeiting exists for almost every company, which not only lowers revenue but also damages brand reputation. Due to these losses, businesses usually are unable to repay their RD expenditure, which restricts their future ability to develop influential products. A different school of thinking contends that certain nations' organised crime is funded by fake goods; no respectable business would want to be linked to this. items that are counterfeit put consumers at risk, and some of these items may even be lethal or pose major health hazards. When it comes to toys for children or medical supplies, it might be harmful for customers to identify counterfeit products. We will focus on the area where the use of IT technology can make a constructive contribution while highlighting the issue of fake domains. After introducing the relevant works, we will briefly describe the solution concept and technological architecture before concentrating on the implementation, assessment, and issues associated with such solutions.

### B. Motivation

- There In recent years, the global distribution of counterfeit goods has increased. There are many fake products in the current supply chain. According to the poll, the prevalence of fake goods has grown recently.
  - A system that enables customers or users to confirm all the product's specifications so they may identify whether the item is genuine or not must be in place. India currently lacks a framework for identifying bogus goods. In order to help the end-user or customers scan and confirm the product's legitimacy using a system, the solution includes a simple QR code-based identification.

## II. RELATED WORK

The results discussed in this article are the comparison of two models developed to justify the model performance for this “Amazon’s yelp” dataset and their relevance to deploy these models in realtime software. Hence Random forests model performed well compared to the Naïve Bayes algorithm by a large margin [1].

In this project, with emerging trends in mobile and wireless technology, Quick Response (QR) codes provide a robust technique to fight the practice of counterfeiting the products. Counterfeit products are detected using a QR code scanner, where a QR code of the product is linked to a Blockchain [2].

Prediction is a statement about the future. This analysis will generate prediction about future using emerging technologies [3].

We describe a decentralized Blockchain system with products anti-counterfeiting, in that way manufacturers can use this system to provide genuine products without having to manage direct-operated stores, which can significantly reduce the cost of product quality assurance [4].

AI design and implementation in video games is a fascinating but challenging task. In order to demonstrate some benefits of declarative programming frameworks over imperative (algorithmic) approaches when dealing with knowledge representation and reasoning, this paper briefly describes some applications that employ Answer Set Programming for such a purpose [5].

In this paper, Identification of fake reviews from the online reviews has been classified. Decision rule classifier is applied for various potential features such as response,useful profile, template,star rating,reply,thick etc to identify whether review is fake or not [6].

The proposed work achieved the accuracy of 80 Percent in detecting fake reviews of written in English by using intelligent learning techniques which is greater than the accuracy of the previous systems [7].

This study is related with the detection of fake and automated accounts which leads to fake engagement on Instagram. As far as we know, there is no publicly available dataset for fake and automated accounts [8].

We describe our unsupervised fake review detection method. We will also describe how to process the temporal data and use an isolation forest algorithm to discover outlier reviews and comments [9].

There are countless millions of Instagram users, but building an organic following and engaging with them takes time. Time that many companies and entrepreneurs lack. Fortunately, you can now easily get hundreds to thousands of followers by buying them.System works on dataset is developed that contains Urdu and Roman Urdu reviews[10].

## III. OPEN ISSUES

A lot of work has been done in this field thanks to its extensive use and applications. This section mentions some of the approaches that have been implemented to achieve the same purpose. These works are mainly differentiated from the techniques for this systems.

Risk factors like counterfeiting and duplication are always present when a technology or product is developed globally; these factors can have an impact on the reputation of the company and the harm to its customers. To verify whether the product is Fake or not. Manufacturers are suffering the worst problem and the greatest losses as a result of counterfeit or fake goods. We can use the QR code technique to determine whether a product is Fake or not.

## IV. CONCLUSION

There are many instruments for spotting fake items, however they only take pictures of the logo or barcode. The objective of this study is to provide a strategy for developing a tool that might capture an image of a product logo, process it using artificial intelligence, and distinguish text and colours to evaluate whether a product is authentic or

fake. This programme will show how portable and user-friendly it is. For those who lack technique, it will be quite helpful.

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