

A novel Machine learning technique for fake smart watches advertisement detection

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Abstract— Fake social media advertisements for items such as smart watches and other types of media are common and a major subject of concern due to their potential to cause considerable social and national harm. This paper examines the research on fake advertisement detection and investigates machine learning models to select the best, in order to create a model of a product with supervised machine learning algorithm, that can classify fake advertisement as true or false, by using tools like python scikit-learn, NLP for textual analysis, and CNN, LSTM, RNN deep learning models for image analysis. We divided our data into 30 and 70 ratios. We trained our algorithm using 70% of the data. The remaining 30% of the data was examined using assessment measures such as accuracy, recall, and fscore. Out of 404 total advertisements, our algorithm identified 372 genuine ads and 32 fake ads.

Keywords— Machine Learning, Fake advertisement, Click Fraud, CNN, RNN

I. INTRODUCTION

Digital marketing has gained in importance as a result of e-commerce. The main reason why firms employ digital marketing is that it is less expensive and more accessible than traditional marketing [1], [2]. In recent years, several firms have developed through the internet, not only as a beneficial method of giving knowledge for advertising, but also as a marketing channel to make profit and improve brand name awareness. Companies create websites to help with operations such as transactions, but many are unaware of how good their websites are at acquiring new consumers. Because of its capacity to reach new customers quickly and at a cheap cost, digital advertising plays an important part in this [3].

There have been several uses of artificial intelligence (AI) technology to internet advertising, particularly to improve target audience reach. Artificial intelligence technologies give internet advertising a competitive advantage over traditional approaches by improving computing capability to promote the optimization of digital advertisements. Machine learning (ML)-based approaches improve targeting accuracy by anticipating the most relevant adverts for viewers based on contextual or prior user data. Such advancements in AI and data-driven techniques assist advertisers in mitigating problems while greatly improving user experience. Several research detail machine learning algorithms that maximize

the transmission of tailored marketing for items such as smart watches.

Smartwatches are the most popular wearable gadget and are increasingly being studied empirically [4]. In recent years, the emphasis has changed from identifying characteristics that influence smartwatch adoption to comprehending aspects that influence long-term usage. A wireless internet connection, either on its own or via a smartphone, enables the use of proprietary as well as third-party apps. Smartwatches cross the border between technology equipment and fashion item by increasingly addressing aesthetic criteria. Because smartwatches incorporate functionalities from various wearables, most of the fake advertisement is trending to publish on social media and different websites. The importance of deception detection in detecting fake advertising cannot be overstated. However, there has been relatively little scientific work done on the core theoretical underpinnings of systems for automatically detecting dishonesty in text, images, and there has been very little study on this area for the smart watches fake advertising.

In this paper, we aim to predict the fake advertisement for smart watches using machine learning algorithms. Machine learning algorithms for identifying click fraud are also detected ads. This paper investigates the research on fake advertisement detection and investigates machine learning models to select the best, in order to create a model of a product with supervised machine learning algorithm, that can classify fake advertisement as true or false, by using tools like python scikit-learn, NLP for textual analysis, and CNN [5], LSTM, RNN deep learning models for image analysis. Several machine learning-based techniques for detecting and/or preventing click fraud are also investigated for smart watches. Some of companies that have a powerful search engine that offers hundreds of things suited to user needs for smart watches advertisement that are original or fake.

Research Contribution

1. Identifying the factors that attract customers to participate in fake advertisement purchasing.
2. Proposed a novel approach for fake advertisement detection using ML techniques