Smart Advertising Based on Customer Preferences and Manage the Supermarket

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Abstract

As a developing country, Sri Lanka needs to go along with cutting-edge technologies. In the beginning phase of this digital advertising, multiple advertisements were displayed on the users' feeds, including advertisements despite their preferences. This was a terrible user experience for the users. However, smart advertising based on customer preferences can manage the flow of advertisements on the feed as per the users' preferences. This same technique can be used in handling advertisements while shopping at supermarkets. These advertisements can be directed based on demographic characteristics like face and gender and previous customer transactions. Additionally, providing the nearest supermarket they can reach based on their current location. Queue management is the next most crucial facility that needs to be provided to a supermarket. However, the manual system of queue management is not effective. But with a modernized queue management system, overcrowded supermarkets can be managed effectively. This proposed system also considers providing a chatbot service to manage customer inquiries in a reliable strategy. In this system, we mainly used the Keras model called VGGFace for face detection, the Conventional Neural Network and Keras-based model for gender detection, the TensorFlow model called SSD MobileNet for queue and crowd detection, the Apriori algorithm base model for predicting the buying pattern, a Keras-based model for AI chatbot and finally, google map API for the nearest supermarket finding. A sophisticated, convenient and reliable system was developed to manage a supermarket because all of these facilities approached in this system.

Keywords

Smart Advertising, Manage Supermarkets, Customer Preferences, Queue Management, Hotspot Analysis