**TITLE**: **Near-field communication sensors and cloud-based smart restaurant management system**

**AUTHOR:** Hassain Saeed, Ali Shouman, Mais Elfar, Mostafa Shabka, Shikharesh Majumdar

In this paper, we introduce an efficient and user-friendly Smart Restaurant Management System. This system will solve key problems faced by restaurants today through the use of technologies such as Mobile and Web applications, Internet of Things (IoT), Near-Field Communications (NFC) sensors, and cloud computing. Restaurants have many inefficiencies due to human limitations that can be resolved through automation and device-to-device communication. This Smart Restaurant Management System accomplishes this by providing two interfaces for the two types of users in restaurants; an Android mobile application for customers and a web application for restaurant staff members. The Android mobile application allows customers to have a seamless dining experience with features such as finding available parking spaces easier through internet-connected infrared proximity sensors in the parking lot, finding available tables at the restaurant easier through NFC sensors, ordering dishes through an interactive menu, and being able to pay the bill from their NFC equipped phones. The web application provides staff members benefits such as collecting data and statistics on the restaurant's performance in real time and automating the order placement system for waiters and cooks via IoT technology.

**TITLE**: **MobileNets: efficient convolutional neural networks for mobile vision applications.**

**AUTHOR:** Andrew G. Howard, Menglong Zhu, Bo Chen, Dmitry Kalenichenko, Weijun Wang, Tobias Weyand, Marco Andreetto, and Hartwig Adam

We present a class of efficient models called MobileNets for mobile and embedded vision applications. MobileNets are based on a streamlined architecture that uses depth-wise separable convolutions to build light weight deep neural networks. We introduce two simple global hyper-parameters that efficiently trade off between latency and accuracy. These hyper-parameters allow the model builder to choose the right sized model for their application based on the constraints of the problem. We present extensive experiments on resource and accuracy tradeoffs and show strong performance compared to other popular models on ImageNet classification. We then demonstrate the effectiveness of MobileNets across a wide range of applications and use cases including object detection, finegrain classification, face attributes and large scale geo-localization.