Correlation Analysis of Applications' Features: A Case Study on Google Play

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Abstract

The presence of smartphones and their daily usages have changed several aspects of modern life. Android and IOS devices are widely used these days by the public. Besides, enormous number of mobile applications have been developed for the users. Google launched an online market which is known as Google Play for offering applications to end users as well as managing them in an integrated environment. Applications have many features that developers should clarify while they are uploading apps. These features have potential correlations which studying them could be useful in several tasks such as detecting malicious or miscategorized apps. Motivated by this, the purpose of this paper is to study these correlations through Machine Learning (ML) techniques. We apply various ML classification algorithms to distinguish these relations among key features of applications. Additionally, we perform many examinations to observe the relations between

the size of the feature vector and the accuracy of the mentioned algorithms. Furthermore, we compare the algorithms to find the best choices for each part of our experiments. The results of our evaluation are promising. Also, in the majority of cases there are strong correlations between features.