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(57) Abstract :
Recently, there has been a noticeable advancement in Android applications, making them one of the technological domains that is advancing and thriving the fastest. Such expansion does not, however, occur without some expense. This specifically relates to heightened security risks that the underlying programmes and their users frequently encounter. The necessity for active research efforts to combat these malicious applications grows urgent as malware gets more and more capable of infiltrating these applications and using them in dubious ways. While some studies are entirely dependent on static analysis, others are focussed on dynamic response, and still others are based on both. In this paper, a novel hybrid approach that uses both static and dynamic aspects of mobile app features to identify android malware is proposed. To enhance the performance of our model, we combined ensemble techniques with machine learning approaches like AdaBoost, SVM, etc. In order to evaluate the efficacy of the utilised methodologies for malware detection, these hybrid aspects using permission, intent, and run-time characteristics (such as information leakage, cryptography's exploitation, and network manipulations) are collected. The ablation tests on more than 2,000 real-world applications are performed and the results indicate that the suggested collection of features has detected malware with 98% of F-measure values.