

1. Rebooting Research on Detecting Repackaged Android Apps: Literature Review and Benchmark

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Abstract: Repackaging is a serious threat to the Android ecosystem as it deprives app developers of their benefits, contributes to spreading malware on users' devices, and increases the workload of market maintainers. In the space of six years, the research around this specific issue has produced 57 approaches which do not readily scale to millions of apps or are only evaluated on private datasets without, in general, tool support available to the community. Through a systematic literature review of the subject, we argue that the research is slowing down, where many state-of-the-art approaches have reported high-performance rates on closed datasets, which are unfortunately difficult to replicate and to compare against. In this work, we propose to reboot the research in repackaged app detection by providing a literature review that summarises the challenges and current solutions for detecting repackaged apps and by providing a large dataset that supports replications of existing solutions and implications of new research directions. We hope that these contributions will re-activate the direction of detecting repackaged apps and spark innovative approaches going beyond the current state-of-the-art. (0 refs)

Inspec controlled terms: invasive software - mobile computing - smart phones

Uncontrolled terms: repackaged app detection - systematic literature review - private datasets - market maintainers - app developers - Android ecosystem - repackaged Android apps

Classification Code: C6190V Mobile, ubiquitous and pervasive computing - C6130S Data security

IPC Code: G06F9/44 - G06F21/00 - H04M1/725

Treatment: Practical (PRA)

Database: Inspec

Data Provider: Engineering Village

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