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THE CHINESE UNIVERSITY OF HONG KONG

Department of Information Engineering

Seminar

Boosting Static Analysis of Android Apps through Instrumentation

by

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Time : 10:00am – 11:00am
Venue : Room 121, Ho Sin Hang Engineering Building
The Chinese University of Hong Kong

Abstract

Static analysis of Android apps, although has been applied for several years, has not yet produced complete tools to perform in-depth analysis, leaving users at risk to malicious apps. Because of the diverse challenges caused by Android apps, it is hard for a single tool to efficiently address all of them. Thus, in this work, we propose to boost static analysis of Android apps through instrumentation, in which the knotty code can be reduced to an equivalent but analyzable code. Consequently, existing static analyzers, without any modification, can be leveraged to perform broader analysis, although originally they cannot.

To this end, in this talk, we will look at two case studies to show how instrumentation techniques can be leveraged to boost static analysis. More specifically, we will present two tools: IccTA and DroidRA. IccTA is a tool that performs inter-component static taint analysis to detect potential sensitive data leaks while DroidRA is a tool that dismisses the reflection problems of Android apps and thereby boosts static analyzers to perform reflection-aware analysis.

Biography

Li Li is currently a third year PhD student at the Interdisciplinary Centre for Security, Reliability and Trust (SnT), University of Luxembourg. His research areas cover Android security, static analysis and empirical studies. Before joining SnT, Li worked as a software engineering at Sohu Research, Beijing in 2013. Li obtained a M.S. Degree and B.S. Degree in Computer Science from Beihang University, China and Southwest University, China, respectively.

**** ALL ARE WELCOME ****

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