Jie Hu

University of California, Riverside
Department of Computer Science & Engineering
465 Winston Chung Hall
Riverside CA 92507 USA

Email: jhu066@ucr.edu
Phone: (951)421-9752

Education

University of California, Riverside (UCR)
Advisor: Heng Yin
Ph.D. in Computer Science, GPA 3.88/4.0, July 2022 (expected).

Huazhong University of Science and Technology (HUST)
B.E. in Computer Science, GPA 3.40/4.0, July 2017.

Research Experience

Research Assistant **Sept. 2017 - Present**
Cyber Security Research Lab, UCR Advisor: Heng Yin

Concolic Execution with Ultra High Efficiency. (current)
Currently I'm working on a highly efficient concolic executor in which we:
- leverage source code instrumentation;
- adopt a light-weight just-in-time decision engine;
- use a hierarchical coverage-based seed scheduler.

Preliminary result has shown higher efficiency than Angora by 10x, and Greyone by 50x, which are state-of-the-art works.

Automatic Generation of Non-intrusive Updates for Third-Party Libraries in Android Applications.
- aimed to automatically patch vulnerabilities for third-party libraries in Android apps;
- proposed a novel Value-sensitive Differential Slicing algorithm that leverages the diffing information between two versions of a library;
- contributed to the project by helping construct the manually validated ground-truth data set for the evaluation of our proposed method.

Research Assistant **Sept. 2015 - June. 2017**
Cluster and Grid computing Lab, HUST Advisor: Deqing Zou

VulPecker: An Automated Vulnerability Detection System Based on Code Similarity Analysis.
- aimed to automatically detect given vulnerabilities in the program;
- contributed to the project by conducting experiments for algorithm prioritization and feature impact analysis.

Publication

[**RAID'19**] Yue Duan, Lian Gao, **Jie Hu**, and Heng Yin. Automatic Generation of Non-intrusive Updates for Third-Party Libraries in Android Applications, September 2019.

[**ACSAC'16**] Zhen Li, Deqing Zou, Shouhuai Xu, Hai Jin, Hanchao Qi, **Jie Hu**. VulPecker: An Automated Vulnerability Detection System Based on Code Similarity Analysis, December 2016.

Professional Experience

Teaching Assistant - UC Riverside - (Jan. 2019 - Jun. 2019, Jan. 2020 - Present)

External Conference Reviewers

AsiaCCS 2018, 2020; DIMVA 2019; CCS 2018;