RUISHI LI (李蕊诗)

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EDUCATION

National University of Singapore, Singapore ..... Aug. 2022 -
Ph.D. student in Computer Science, School of Computing

University of Chinese Academy of Sciences, Beijing, China ..... Sep. 2019 - Jun. 2022
M.S. in Cyber Security, Institute of Information Engineering Overall GPA: 3.94/4.00
Advisor: Kai Chen.

Wuhan University, Wuhan, China ..... Sep. 2015 - June. 2019
B.E. in Information Security, School of Cyber Science and Engineering Overall GPA: 3.81/4.00
Advisor: Liqiang Zhang.
Ranked first in recommending excellent undergraduates to study for a master's degree without examination.

RESEARCH INTERESTS

I am broadly interested in computer security and software engineering(e.g., software security, OS security, machine learning security, and hardware security). I have some experience in vulnerability discovery and natural language processing. Now I'm working on code completion and consensus protocol.

PUBLICATIONS

[1] **RTFM! Automatic Assumption Discovery and Verification Derivation from Library Document for API Misuse Detection.**
Tao Lv, Ruishi Li, Yi Yang, Kai Chen, Xiaojing Liao, XiaoFeng Wang, Peiwei Hu and Luyi Xing. In *Proceedings of the ACM Conference on Computer and Communications Security (***CCS***)*, November, 2020.

> This research extracts the integration assumptions(IAs) from the library API document using sentimental analysis and translates them to verification code for a compliance check on the softwares using these APIs. We implemented this design as Advance. When evaluated on 5 popular libraries (OpenSSL, SQLite, libpcap, libdbus and libxml2) and 39 real-world applications, it detected 193 API misuses.

[2] **The Inconsistency of Documentation: A Study of Online C Standard Library Documents.**
Ruishi Li, Yunfei Yang, Jinghua Liu, Peiwei Hu, Guozhu Meng. *CyberSecurity* **5**, 14 (2022). https://doi.org/10.1186/s42400-022-00118-9

> This research first completes broken sentences, discovers Security Specifications(SSs) from them by judging constraint sentiments, and then puts semantically similar SSs from different sources into a group to quickly discovering missing and inaccurate SSs. With the help of SSeeker, we investigated 4 popular online third-party C standard library documents and discovered 96 SS issues.

PROJECT EXPERIENCE

Defense of End-to-end Voiceprint Recognition Based on Synthetic Speech detection ... Jan. 2019 - Apr. 2019

· Test the attack effect of Tacotron2 synthesized speech and ASVspoof2015 synthesized speech on GE2E voiceprint recognition system.

- Propose a new phase-frequency feature LSTM-P and trained a machine learning-based synthetic speech detector.
- Achieve the accuracy of 97.2% when detecting synthetic speech.

The Real-time Miner Hunter ..... Mar. 2018 - July 2018

- Implement a real-time detector for mining software on the Windows platform.
- Integrate the results of three detection modules (data packet structure matching, traffic model detection, and instruction sequence matching).
- Show real-time monitoring results through the UI interface and provide whitelist and interception functions.

INTERNSHIP EXPERIENCES

Deloitte, Wuhan, China ..... July 2018 - Aug. 2018
Tax and Business Advisory Department: developing the financial system for Dongfeng Motor Co. Ltd.

PROFESSIONAL SKILLS

Vulnerability discovery: Fuzzing, symbolic execution, and static analysis (e.g., CodeQL).
Natural language processing: Preliminary in sentiment analysis, dependency parsing, word embedding, Part-of-speech tagging, and shallow parsing.
Programming language: C, Python, Latex, SQL, Java, and C++.

HONORS AND AWARDS

Merit Student, University of Chinese Academy of Sciences (20%, 71/347)	2020
Outstanding Graduates, Wuhan University	2019
First-class Scholarship for Outstanding Students, Wuhan University (5%)	2018
National Encouragement Scholarship, Wuhan University	2018
First Class Prize, The 11th National College Student Information Security Contest (8%, 40/494)	2018
Tianyuan Dic Scholarship, Wuhan University	2018
Merit Student, Wuhan University (10%)	2016, 2017, 2018
Second-class Scholarship for Outstanding Students, Wuhan University (15%)	2016
Freshman Second-class Scholarship, Wuhan University	2015

REPORTED BUGS

Anjuta: CVE-2020-22617; **Gsequencer**: Memory Leak; **Mumble**: Memory Leak; **Colord**: Memory Leak