Yuyang(Peter) Rong

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EDUCATION

UC Davis Sep 2019 - Jun 2024

Ph.D. candidate in Computer Science *Davis, CA*

· Research interest: software security, fuzzing, dynamic taint analysis.

ShanghaiTech University Sep 2015 - Jun 2019

B.E. Computer Science and Technology *Shanghai, China*

· GPA 3.80/4 (Ranking: 5/124)

EXPERIENCE

Bytedance Jun 2020 - Sep 2020

Research Intern *Mountain View, CA*

· Focus on solving state-of-the-art fuzzer Angora's gradient solver local minima and branch collision problem.

· Implemented a compiler plugin in 2000 lines of C++ using LLVM and a new gradient solver in 3000 lines of Rust.

· Improved branch coverage by 41% compared by Angora, 94% compare to other state-of-the-art fuzzers.

· ***Valkyrie: Improving Fuzzing Performance Through Principled Techniques*** submitted to Euro S&P 2022.

Bytedance Sep 2018 - Aug 2019

Research Intern *Beijing, China*

· I was assigned to find integer errors in Bytedance's codebase.

· I designed a sanitizer and implemented it as a runtime plugin using around 1500 lines C++ and 2000 lines of Rust.

· Identified 8 crashing errors that could cause deinal of service attack; CVE-2020-18869 and CVE-2020-18871 assigned.

· Found 166 non-crashing errors that could cause program misbehave, reported to developers.

· ***IntEgrity: finding integer errors by targeted fuzzing*** published on SecureComm 2020.

ABB Group Oct 2017 - Jun 2018

Research Intern *Shanghai, China*

· ABB group hoped they can give their desktop robot Yumi the ability to move around.

· We attached Yumi to an 4-wheel robot to make it autonomous.

· I developed **navigation**, **mapping**, and **control transfer state machine** in around 5000 lines of C++.

· I made demonstration to the leader in ABB.

Screen++ Jun 2017 - Jun 2017

Team leader *Shanghai, China*

· Proposed an application to connect all the screens in different platforms;

· Responsible for the software development & market model; I also did the final presentation;

· Python & Apache used. Group of 5 and won the **3rd prize** in iLab Hackathon.

AWARDS

ShanghaiTech President's Scholarship Nov 2016

Shanghai Scholarship Oct 2016

TECHNICAL STRENGTHS

Programming Languages	Proficient: Rust; Frequent use: C++, C; Knowledgeable: Python
Frameworks	LLVM