

# JIANG MUHUI

Tel.: +86 13456730376

QT405, PolyU, Hong Kong SAR, China

Homepage: [muhui.site](http://muhui.site) ♦ Email: [jiangmuhui@gmail.com](mailto:jiangmuhui@gmail.com)

## EDUCATION

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**The Hong Kong Polytechnic University, Hong Kong**

*July 2016 - December 2021*

Doctor of Philosophy

Department of Computing

Supervisor: Daniel Xiapu Luo

**Tongji University, Shanghai, China**

*September 2012 - June 2016*

Bachelor of Engineering

Department of Software Engineering

**Uppsala University, Uppsala, Sweden**

*August 2014 - January 2015*

Exchange Student

Department of Information Technology

## RESEARCH INTEREST

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My current research interests include blockchain security, DeFi security, software security, system security, IoT security, and network security. More specifically, I am interested in reverse engineering, binary analysis, firmware rehosting, fuzzing techniques, and DDoS.

## PUBLICATIONS

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**EXAMINER: Automatically Locating Inconsistent Instructions between Real Devices and CPU Emulators for ARM**

Proceedings of the 27th International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS 2022)

Muhui Jiang, Tianyi Xu, Yajin Zhou, Yufeng Hu, Ming Zhong, Lei Wu, Xiapu Luo, Kui Ren

**ECMO: Rehost Embedded Linux Kernels via Periphehal Transplantation**

Blackhat Europe 2021

Muhui Jiang

**ECMO: Peripheral Transplantation to Rehost Embedded Linux Kernels**

Proceedings of the ACM Conference on Computer and Communications Security (CCS 2021)

Muhui Jiang, Lin Ma, Yajin Zhou, Qiang Liu, Cen Zhang, Zhi Wang, Xiapu Luo, Lei Wu, Kui Ren

**FirmGuide: Boosting the Capability of Rehosting Embedded Linux Kernels through Model-Guided Kernel Execution**

Proceedings of the 36th IEEE/ACM International Conference on Automated Software Engineering (ASE 2021)

Qiang Liu, Cen Zhang, Lin Ma, Muhui Jiang, Yajin Zhou, Lei Wu, Wenbo Shen, Xiapu Luo, Yang Liu, Kui Ren

**Parema: An Unpacking Framework for Demystifying VM-based Android Packers**

Proceedings of the ACM SIGSOFT International Symposium on Software Testing and Analysis (ISSTA 2021)

Lei Xue, Yuxiao Yan, Luyi Yan, Muhui Jiang, Xiapu Luo, Dinghao Wu, Yajin Zhou

### **An Empirical Study on ARM Disassembly Tools**

Proceedings of the ACM SIGSOFT International Symposium on Software Testing and Analysis (ISSTA 2020)

Muhui Jiang, Yajin Zhou\*, Xiapu Luo, Ruoyu Wang, Yang Liu, Kui Ren

### **PERDICE: Towards Discovering Software Inefficiencies Leading to Cache Misses and Branch Mispredictions**

Proceedings of the 42nd Annual Computer Software and Applications Conference (COMPSAC 2018)

Ting Chen, Wanyu Huang, Muhui Jiang, Xiapu Luo, Lei Xue, Ying Wang, Xiaosong Zhang

### **AutoFlowLeaker: Circumventing Web Censorship through Automation Services**

Proceedings of the 36th IEEE International Symposium on Reliable Distributed Systems (SRDS 2017)

Shengtuo Hu, Xiaobo Ma, Muhui Jiang, Xiapu Luo, and Man Ho Au

### **Characterizing the Impacts of Application Layer DDoS Attacks**

Proceedings of IEEE International Conference on Web Services (ICWS 2017)

Muhui Jiang, Chenxu Wang, Xiapu Luo, MiuTung Miu, Ting Chen

### **Are HTTP/2 Servers Ready Yet?**

Proceedings of the 37th IEEE International Conference on Distributed Computing Systems (ICDCS 2017)

Muhui Jiang, Xiapu Luo, TungNgai Miu, Shengtuo Hu, and Weixiong Rao

## **TECHNICAL STRENGTHS**

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<b>Reverse Engineering</b>	IDA Pro, Binary Ninja, Hopper, Angr, Ghidra, Radare2
	Capstone, Unicorn, Keystone
<b>Binary Analysis</b>	ARM Architecture, QEMU, Valgrind

## **WORK EXPERIENCE**

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<b>Director of Security Service</b> BlockSec ( <a href="https://www.blocksecteam.com/">https://www.blocksecteam.com/</a> )	<i>December 2021 - Now</i>
<b>International Intern</b> GPI NetOpsDev Department, CCOE, eBay Inc. Manager: Kaiqi Chen	<i>April 2015 - December 2015</i>
<b>Research Administration Assistant</b> Department of Computing, PolyU. Supervisor: Daniel Xiapu Luo	<i>March 2016 - June 2016</i>

## **TEACHING EXPERIENCE**

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### **2019–2020: Teaching Assistant**

COMP5122: E-commerce Fundamentals and Development, Department of Computing, PolyU

### **2018–2019: Teaching Assistant**

COMP5353: Internet Security: Principles and Practice, Department of Computing, PolyU.

COMP6705: Advanced Topics in System Modeling and Evaluation, Department of Computing, PolyU.

### **2017–2018: Teaching Assistant**

COMP4334: Principles and Practice of Internet Security, Department of Computing, PolyU.  
COMP2322: Computer Networking, Department of Computing, PolyU.

**2016–2017: Teaching Assistant**

COMP4334: Principles and Practice of Internet Security, Department of Computing, PolyU.  
COMP5353: Internet Security: Principles and Practice, Department of Computing, PolyU.