

Tran Duc Muoi (Muoi Tran)

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Introduction

Muoi Tran is a Ph.D. candidate of the Computer Science Department at National University of Singapore. His research aims to enhance the network and blockchain security with a focus on the underlying Internet infrastructure.

Education

School of Computing, National University of Singapore

Ph.D., Computer Science

Singapore

08/2016 – Present

- Advisor: Dr. Min Suk Kang, Assistant Professor
- CAP: 4.33/5.0

University of Engineering and Technology, Vietnam National University

B.S., Computer Science

Hanoi, Vietnam

08/2011 – 07/2015

- CAP: 3.49/4.0. Honor programme with highest distinction
- Thesis: “Some Improvements for Regular Expression Solving in Z3-Regex”
- Thesis advisor: Associate Professor Hoang Truong

Honors & Awards

President’s Graduate Fellowship

2019 – 2020

- Awarded by National University of Singapore

I&E Practicum@SoC

2018

- 10,000 SGD grant

NUS Research Scholarship

2016 – 2019

- Awarded by National University of Singapore

Honda Y-E-S Award Vietnam

2015

- Awarded by Honda Foundation to 10 Vietnamese students

Best undergraduate thesis defense

2015

- Awarded by University of Engineering and Technology, Vietnam National University

1st Prize in Student Scientific Research Contest

2015

- Awarded by University of Engineering and Technology, Vietnam National University

GE Foundation Scholar Leadership

2012

- Awarded by GE Foundation to 10 best first-year undergraduate students

Publications

1. A Stealthier Partitioning Attack against Bitcoin Peer-to-Peer Network

San Francisco, CA, USA

Muoi Tran, Inho Choi, Gi Jun Moon, Anh V. Vu, Min Suk Kang

05/2020

- (To Appear) In Proceedings of IEEE Symposium on Security and Privacy (**IEEE S&P**)
- Website: <https://erebus-attack.comp.nus.edu.sg/>

2. Practical Verifiable In-network Filtering for DDoS defense

Dallas, TX, USA

Deli Gong(), Muoi Tran(*), Shweta Shinde, Hao Jin, Vyas Sekar, Prateek Saxena, Min Suk Kang*

07/2019

- (*) Lead authors alphabetically ordered
- In Proceedings of IEEE International Conference on Distributed Computing Systems (**IEEE ICDCS**)
- Acceptance rate: 19.6%

3. On the Feasibility of Rerouting-based DDoS Defenses

San Francisco, CA, USA

Muoi Tran, Min Suk Kang, Hsu-Chun Hsiao, Wei-Hsuan Chiang, Shu-Po Tung, Yu-Su Wang

05/2019

- In Proceedings of IEEE Symposium on Security and Privacy (**IEEE S&P**)
- Acceptance rate: 11.7% (84 out of 720)

4. Obscuro: A Bitcoin Mixer using Trusted Execution Environments

San Juan, PR, USA

Muoi Tran, Loi Luu, Min Suk Kang, Iddo Bentov, Prateek Saxena

12/2018

- In Proceedings of Annual Computer Security Applications Conference (**ACSAC**)
- Acceptance rate: 20.1% (60 out of 299)

Employment

IBM Blockchain Research, IBM Studio

Singapore

Intern Researcher

05/2018 – 08/2018

School of Computing, National University of Singapore

Singapore

Research Assistant

01/2016 – 07/2016

School of Computing, National University of Singapore

Singapore

Intern Researcher

07/2015 – 01/2016

Teaching

School of Computing, National University of Singapore

Singapore

Teaching Assistant

- CS5231 — System Security (Semester I 2017/18)
- CS5321 — Network Security (Semester II 2016/17)
- CS2106 — Introduction to operating systems (Semester II 2016/17)
- CS2104 — Programming language concepts (Semester I 2016/17)

Professional Service

Program committee & Session chair

- NUS Computer Science Research Week 2019

Conference external reviewer

- 18th World Conference on Information Security Applications (WISA'17)
- 18th International Conference on Verification, Model Checking, and Abstract Interpretation (VMCAI'17)
- Proceeding of Object-oriented Programming, Systems, Languages, and Applications (OOPSLA'16)

Exhibition presenter

- GovWare 2017 - Singapore International Cyber Week (SICW'17)

References

Dr. Min Suk Kang (advisor)

Assistant Professor

- School of Computing, National University of Singapore
- Email: kangms@comp.nus.edu.sg

Dr. Prateek Saxena (collaborator)

Associate Professor

- School of Computing, National University of Singapore
- Email: prateeks@comp.nus.edu.sg