

Mark Huasong MENG

PHONE: (H) +65 8102 8639 / (O) +65 6408 2256
ADDRESS: #COM2 01-09, 15 Computing Dr, Singapore 117418
EMAIL: huasong.meng@u.nus.edu / menghs@i2r.a-star.edu.sg

EDUCATION

- 2019 – Present Doctor of Philosophy in COMPUTER SCIENCE
 National University of Singapore, Singapore
 Winner of A*STAR Computing and Information Science Scholarship (2019 – 2023)
 Research Topic: “Generative Adversarial Network (GAN) in Cybersecurity”
 Supervisor: Prof. Jin Song DONG, Dr. Huaqun GUO, Dr. Chuan-Sheng Foo
- 2015 – 2016 Master of Computing in INFOCOMM SECURITY
 National University of Singapore, Singapore
 Graduate with DISTINCTION
 Thesis: “Analysing Use of High Privileges in Android Applications”
 Keywords: Android Security, Reverse Engineering, Program Analysis
 Supervisor: Prof. Jin Song DONG
- 2010 – 2014 Bachelor of Engineering (Hon.) in COMPUTER SCIENCE *with* BUSINESS Minor
 Nanyang Technological University, Singapore
 Graduate with 2ND UPPER CLASS HONOURS
 Winner of SM2 MOE-INDUSTRY JOINT SCHOLARSHIP (2008 – 2014)
 Thesis: “Chinese Segmentation in User Generated Content”
 Keywords: Natural Language Processing
 Supervisor: Assoc. Prof. Aixun SUN
- 2013 Summer Exchange Programme
 University of California, Berkeley, United States, CA

WORK EXPERIENCE

- Oct 2016 to AGENCY FOR SCIENCE, TECHNOLOGY AND RESEARCH (A*STAR), Singapore
PRESENT *Research Engineer II*
 Cyber-Security (CS) Department, Institute for Infocomm Research (I²R)
 - Be involved in researching and developing advanced technologies and algorithms for a wide range of research projects.
 - Provide scientific work with technical support within the department.
 - Co-supervise 5 Singapore Polytechnic students’ final year projects.
 - Represent the cluster in the software quality control committee of I²R.
 - Organize and lead 4 software development training sessions within the institute.
 - Serve as treasurer of I²R Recreational Club Management Committee.
- Jul 2016 to NCS PTE LTD, Singapore
Sep 2016 *Software Analyst*
 PaC@Gov Team, Ministry of Finance Project Group
 - Take charge of post penetration testing remediation for the PaC@Gov platform.
 - Coordinate the development of mobile applications (iOS and Android) with the contractor.
 - Participate in the pre-release testing of mobile applications for PaC@Gov platform.
- Jun 2014 to GEMALTO PTE LTD, Singapore¹
Jul 2015 *Software Engineer*
 Ezio Mobile SDK Team, R&D Department
 - Serve as a development team member of Gemalto’s eBanking product – Ezio Mobile SDK (*n.k.a. Mobile Protector*).
 - Focus on stability and security of mobile application development (iOS, Android and Windows Phone).
 - Work as a Scrum team by applying Agile development methodology.
 - Test the project by following professional software development process.
 - Write technical documentation for both internal and external users.

¹Now known as Thales Technologies Pte Ltd

Jul 2012 to Dec 2012	AUTODESK ASIA PTE LTD, Singapore <i>Intern Software Engineer</i> DesignScript Team, R&D Department <ul style="list-style-type: none"> • Contribute in design and development of the new programming language: “DesignScript” (<i>n.k.a. Dynamo BIM</i>). • Study and implement the new parser of DesignScript language. • Be involved in pre-release defects fixing work for the new compiler and IDE.
-------------------------	---

PUBLICATIONS

- j1 **Huasong Meng**, Vrizzlynn L. L. Thing, Yao Cheng, Zhongmin Dai, and Li Zhang, “A Survey of Android Exploits in the Wild,” *Computers & Security*, vol. 76, pp. 71–91, 2018
- c1 **Mark Huasong Meng** and Yaou Qian, “A Blockchain Aided Metric for Predictive Delivery Performance in Supply Chain Management,” *IEEE International Conference on Service Operations and Logistics, and Informatics (SOLI)*, 2018
- c2 Duc Phong Le, **Huasong Meng**, Le Su, Sze Ling Yeo and Vrizzlynn L. L. Thing, “BIFF: A Blockchain-based IoT Forensics Framework with Identity Privacy,” *IEEE Region 10 Conference (TENCON)*, 2018
- c3 Li Zhang, **Huasong Meng** and Vrizzlynn L. L. Thing, “Progressive Control Flow Obfuscation for Android Applications,” *IEEE Region 10 Conference (TENCON)*, 2018
- c4 **Mark Huasong Meng**, Guangdong Bai, Joseph K. Liu, Xiapu Luo and Yu Wang, “Analyzing Use of High Privileges on Android: An Empirical Case Study of Screenshot and Screen Recording Applications,” *The 14th International Conference on Information Security and Cryptology (Inscrypt)*, 2018
- c5 Le Su, Yao Cheng, **Huasong Meng**, Vrizzlynn Thing, Zhe Wang, Linghe Kong, and Long Cheng, “Securing Intelligent Transportation System: a Blockchain-based Approach with Attack Mitigation,” *The 2nd International conference on Smart Block (SmartBlock)*, 2019

RESEARCH PROJECTS

OCT 2016 – FEB 2017	Control Flow Obfuscation for Android Applications Implement the obfuscation theory proposed from previous publications into a comprehensive Android APK transformation solution containing 8 different obfuscation techniques.
DEC 2016 – JAN 2019	EagleEye: Forensic Suite for Android Devices Rewrite the existing laboratory prototype with new functionalities into a web application for demonstration and internal usage.
DEC 2017 – JUL 2018	Blockchain for Digital Assets Tracking Implement an in-house blockchain solution for decentralized digital assets tracking in the industry.
MAY 2018 – OCT 2018	SecSG1:Securing Last-Mile Communication Systems for Smart Grids Implement the algorithm proposed in previous publications and integrate into the smart grid testbed.
JAN 2019 – JUN 2019	Proxy-Assisted Fine-Grained Encryption of Cloud Data Implement the encryption scheme invented in previous publications and integrate it with a file cloud web application for the demonstration.

SKILLS

Programming	Proficient in JAVA, C/C++ and PYTHON Full Stack Web Development (NODEJS and DJANGO) Mobile Development on Android (<i>since 2014</i>), iOS (<i>since 2014</i>) and Windows Phone (<i>since 2012</i>) Working experience in C, R, JSP and SQL
Software Management	Adobe Software (Photoshop, Lightroom, etc), Microsoft Office SCRUM development methodology

STUDENT ACTIVITIES

2013	Microsoft Imagine Cup 2013 – Innovation Challenge SOFTWARE DEVELOPER & UI DESIGNER <ul style="list-style-type: none">• Represent Nanyang Technological University in Semi-Final Singapore.• Develop an application that enables designers conveniently transfer their ideas into runnable prototypes.
2011 – 2012	NTU Computer Engineering Club PUBLICITY OFFICER, 12TH MANAGEMENT COMMITTEE
2010 – 2012	NTU Cultural Activities Club – Wushu Club HONORARY GENERAL SECRETARY, 8TH MANAGEMENT COMMITTEE PUBLICATION & PUBLICITY OFFICER, 7TH MANAGEMENT COMMITTEE
2011	NTU Students Union – International Undergraduate Committee, China Group BUSINESS MANAGER, SPECIAL PROJECT ORGANIZING COMMITTEE

LANGUAGES

Proficient in ENGLISH and CHINESE MANDARIN
Conversational in CANTONESE
Elementary in MALAY

INTERESTS

Photography, Travel, Cooking, Religion and History