

GUOZHU MENG (DR.)

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EDUCATION

Nanyang Technological University

Jan. 2013 - June 2017

Doctor of Philosophy in School of Computer Science and Engineering

Thesis: A Semantic-based Analysis of Android Malware for Detection, Generation, and Trend Analysis

Tianjin University

Sept. 2009 - July 2012

Master of Science in School of Computer Science and Technology

Thesis: Formal Modelling of Web Protocol and Vulnerability Detection via Formal Verification

Tianjin University

Sept. 2005 - July 2009

Bachelor of Science in School of Software Engineering

Thesis: Security Vulnerability Detection for Sequence Diagram based on Attack Pattern

INVITED TALKS

Theories and Practices of the Intelligentization of System Security

31 Aug. 2019

Location: University of Science and Technology, Suzhou, China

Inviter: CCF YOCSEF Suzhou

Theories and Practices of the Intelligentization of System Security

21 Jul. 2019

Location: Zhejiang Hotel, Hang Zhou, China

Inviter: CCF YOFSEC Hangzhou

Taming the Stubborn in Android Apps: Malware, Crashes, and Vulnerabilities

19 Oct. 2018

Location: Southern University of Science and Technology, Shenzhen, Guangdong, China

Inviter: Prof. Yepang Liu

Taming the Stubborn in Android Apps: Malware, Crashes, and Vulnerabilities

30 Sept. 2018

Location: Tianjin University, Tianjin, China

Inviter: Prof. Xiaohong Li

Automated Semantic-risk Assessment for Financial Apps

5 Jan. 2018

Location: Singapore

Inviter: OCBC Bank, Singapore

Guided, Stochastic Model-based GUI Testing of Android Apps

19 Sept. 2017

Location: University of Luxembourg, Luxembourg

Inviter: Prof. Sjouke Mauw

A Semantic-based Analysis of Android Malware for Detection, Generation, and Trend Analysis

13 Dec. 2017

Location: Shanghai, China

Inviter: Pangu Team

Towards Securing Android Apps: Malware Detection, Anti-Malware Tools Auditing and Security Testing

16 Jun. 2017

Location: Beijing, China

Inviter: Beihang University

Semantic Modelling of Android Malware for Malware Comprehension, Detection, and Classification

06 July 2016

Location: Saarland University, Saarland, Germany

Inviter: ISSA 2016

Mystique: Evolving Android Malware for Auditing Anti-Malware Tools

01 June 2016

Location: Xi'an, China

Inviter: AsiaCCS 2016

TEACHING EXPERIENCE

Mobile Security and Evaluation <i>University of Chinese Academy of Sciences, China</i>	Spring Semester, 2019 <i>Teaching Lecturer</i>
Software Security and Testing <i>Beijing University of Post and Technology, China</i>	Nov. 2018 <i>Guest Teaching Lecturer</i>
Data Structure and Algorithm <i>Tianjin University, China</i>	Fall Semester, 2010 <i>Teaching Assistant</i>
Java Programming Language <i>Tianjin University, China</i>	Fall Semester 2009 <i>Teaching Assistant</i>

WORK EXPERIENCE

Institute of Information Engineering, China <i>Associate Professor</i>	Sept. 2018 - Present
University of Luxembourg, Luxembourg <i>Visiting Research Fellow</i>	Sept. 2017 - Nov. 2017
Nanyang Technological University, Singapore <i>Research Fellow</i>	July 2017 - Sept. 2018
Nanyang Technological University, Singapore <i>Research Associate</i>	Feb. 2013 - June 2017
National University of Singapore <i>Associate Scientist</i>	Dec. 2011 - Jan. 2013

PUBLICATIONS

Journal Articles

- 1 Chen, X., Zhao, Y., Cui, Z., **Meng, G.**, Liu, Y., & Wang, Z. (2019). Large-scale empirical studies on effort-aware security vulnerability prediction methods. *IEEE Transactions on Reliability*, 1–18. doi:10.1109/TR.2019.2924932
- 2 Tang, Z., Xue, M., **Meng, G.**, Ying, C., Liu, Y., He, J., ... Liu, Y. (2019). Securing android applications via edge assistant third-party library detection. *Computers Security*, 80, 257–272. doi:https://doi.org/10.1016/j.cose.2018.07.024
- 3 **Meng, G.**, Patrick, M., Xue, Y., Liu, Y., & Zhang, J. (2018, December). Securing android app markets via modelling and predicting malware spread between markets. *IEEE Transactions on Information Forensics and Security*, 20(20), xx.
- 4 **Meng, G.**, Feng, R., Bai, G., Chen, K., & Liu, Y. (2018, June). Droidecho: an in-depth dissection of malicious behaviors in android applications. *Cybersecurity*, 1(1), 4. doi:10.1186/s42400-018-0006-7
- 5 Xue, Y., **Meng, G.**, Liu, Y., Tan, T. H., Chen, H., Sun, J., & Zhang, J. (2017, July). Auditing anti-malware tools by evolving android malware and dynamic loading technique. *IEEE Transactions on Information Forensics and Security (TIFS)*, 12(7), 1529–1544. doi:10.1109/TIFS.2017.2661723
- 6 He, L., **Meng, G.**, Gu, Y., Liu, C., Sun, J., Zhu, T., ... Shin, K. G. (2017, June). Battery-aware mobile data service. *IEEE Transactions on Mobile Computing*, 16(6), 1544–1558. doi:10.1109/TMC.2016.2597842
- 7 **Meng, G.**, Xue, Y., Siow, J. K., Su, T., Narayanan, A., & Liu, Y. (2017). AndroVault: Constructing Knowledge Graph from Millions of Android Apps for Automated Analysis. *CoRR*, abs/1711.07451. arXiv: 1711.07451. Retrieved from <http://arxiv.org/abs/1711.07451>
- 8 **Meng, G.**, Liu, Y., Zhang, J., Pokluda, A., & Boutaba, R. (2015, July). Collaborative security: a survey and taxonomy. *ACM Computing Surveys (CSUR)*, 48(1), 1:1–1:42. doi:10.1145/2785733

Conference Proceedings

- 1 Zha, M., **Meng, G.**, Lin, C., Zhou, Z., & Chen, K. (2019, December). Rolma: a practical adversarial attack against deep learning-based lpr systems. In *The 15th international conference on information security and cryptography (inscrypt)*.
- 2 Feng, R., Chen, S., Xie, X., Ma, L., **Meng, G.**, Liu, Y., & Lin, S. (2019, November). MobiDroid: A Performance-Sensitive Malware Detection System on Mobile Platform. In *Proceedings of the 24th international conference on engineering of complex computer systems*. ICECCS 2019. HongKong, China.
- 3 Wang, H., Liu, H., Xiao, X., **Meng, G.**, & Guo, Y. (2019). Characterizing Android Signature Issues. In *Proceedings of the 34th acm/ieee international conference on automated software engineering*. ASE 2019. San Diego, CA, USA.
- 4 Chen, C., Su, T., **Meng, G.**, Xing, Z., & Liu, Y. (2018). From ui design image to gui skeleton: a neural machine translator to bootstrap mobile gui implementation. In *The 40th international conference on software engineering (icse)* (pp. 665–676). Gothenburg, Sweden: ACM.
- 5 Chen, S., Su, T., Fan, L., **Meng, G.**, Xue, M., Liu, Y., & Xu, L. (2018). Are mobile banking apps secure? what can be improved? In *Proceedings of the 2018 26th acm joint meeting on european software engineering conference and symposium on the foundations of software engineering* (pp. 797–802). ESEC/FSE 2018. Lake Buena Vista, FL, USA: ACM. doi:10.1145/3236024.3275523
- 6 Fan, L., Su, T., Chen, S., **Meng, G.**, Liu, Y., Xu, L., & Pu, G. (2018). Efficiently Manifesting Asynchronous Programming Errors in Android Apps. In *Proceedings of the 33rd acm/ieee international conference on automated software engineering* (pp. 486–497). ASE 2018. Montpellier, France: ACM. doi:10.1145/3238147.3238170
- 7 Fan, L., Su, T., Chen, S., **Meng, G.**, Liu, Y., Xu, L., . . . Su, Z. (2018). Large-scale analysis of framework-specific exceptions in android apps. In *The 40th international conference on software engineering (icse)* (pp. 408–419). Gothenburg, Sweden: ACM.
- 8 Zhang, N., Xu, G., **Meng, G.**, & Zheng, X. (2018). Soprotector: securing native C/C++ libraries for mobile applications. In *Algorithms and architectures for parallel processing - 18th international conference, ICA3PP 2018, guangzhou, china, november 15-17, 2018, proceedings, part III* (pp. 417–431). doi:10.1007/978-3-030-05057-3_32
- 9 He, L., Kim, E., Shin, K. G., **Meng, G.**, & He, T. (2017). Battery state-of-health estimation for mobile devices. In *Proceedings of the 8th international conference on cyber-physical systems* (pp. 51–60). ICCPS '17. Pittsburgh, Pennsylvania: ACM. doi:10.1145/3055004.3055018
- 10 Lin, Y., **Meng, G.**, Xue, Y., Xing, Z., Sun, J., Peng, X., . . . Dong, J. (2017). Mining implicit design templates for actionable code reuse. In *The 32nd ieee/acm international conference on automated software engineering (ase)*. Urbana-Champaign, Illinois, USA.
- 11 Su, T., **Meng, G.**, Chen, Y., Wu, K., Yang, W., Yao, Y., . . . Su, Z. (2017). Guided, stochastic model-based gui testing of android apps. In *Proceedings of the 2017 11th joint meeting on foundations of software engineering (esec/fse)* (pp. 245–256). Paderborn, Germany: ACM. doi:10.1145/3106237.3106298
- 12 Narayanan, A., **Meng, G.**, Liu, Y., Liu, J., & Chen, L. (2016, July). Contextual weisfeiler-lehman graph kernel for malware detection. In *2016 international joint conference on neural networks (ijcnn)* (pp. 4701–4708). doi:10.1109/IJCNN.2016.7727817
- 13 **Meng, G.**, Xue, Y., Chandramohan, M., Narayanan, A., Liu, Y., Zhang, J., & Chen, T. (2016). Mystique: evolving android malware for auditing anti-malware tools. In *Proceedings of the 11th ACM on asia conference on computer and communications security, asiaccs 2016, xi'an, china, may 30 - june 3, 2016* (pp. 365–376).
- 14 **Meng, G.**, Xue, Y., Xu, Z., Liu, Y., Zhang, J., & Narayanan, A. (2016). Semantic modelling of android malware for effective malware comprehension, detection, and classification. In *Proceedings of the 25th international symposium on software testing and analysis* (pp. 306–317). ISSTA 2016. Saarbrücken, Germany: ACM. doi:10.1145/2931037.2931043
- 15 Bai, G., Lei, J., **Meng, G.**, Venkatraman, S. S., Saxena, P., Sun, J., . . . Dong, J. S. (2013). Authscan: automatic extraction of web authentication protocols from implementations. In *20th annual network and distributed system security symposium (ndss)*. Retrieved from <http://www.internetsociety.org/doc/authscan-automatic-extraction-web-authentication-protocols-implementations%E2%88%97>

PROFESSIONAL ACTIVITIES

Editorship

- *Issue 1 of CyberSecurity (Guest Editor)* 2020

Organizations

- *The 2nd International Workshop on Advances in Mobile App Analysis (A-Mobile 2019)* 2019
- *The 1st International Workshop on Advances in Mobile App Analysis (A-Mobile 2018)* 2018

Program Committee Member

- *28th International Joint Conference on Artificial Intelligence (IJCAI)* 2019
- *6th International Workshop on Graphical Models for Security (GraMSec)* 2019
- *17th Annual International Conference on Privacy, Security, and Trust 2019 (PST)* 2019
- *1st IEEE International Workshop on Artificial Intelligence for Mobile 2019 (AI4Mobile)* 2019
- *6th IEEE/ACM International Conference on Mobile Software Engineering and Systems - Student Research Competitions (Mobilesoft2019SRC)* 2019

Peer Reviewer

- *IEEE Transactions on Information Forensics and Security (TIFS)*
- *IEEE Transactions on Dependable and Secure Computing (TDSC)*
- *IEEE Transactions on Software Engineering (TSE)*
- *IEEE Transactions on Mobile Computing (TMC)*
- *Computers and Security*
- *28th International Joint Conference on Artificial Intelligence (IJCAI)* 2019
- *The 26th ACM Conference on Computer and Communications Security (CCS)* 2019
- *The 14th ACM ASIA Conference on Computer and Communications Security (ASIACCS)* 2019
- *The 33rd IEEE/ACM International Conference on Automated Software Engineering (ASE)* 2018
- *The 31st IEEE/ACM International Conference on Automated Software Engineering (ASE)* 2016

AWARDS AND HONORS

- ACM SIGSAC China Arising Star Award 2019
- Best Paper Award from State Key Laboratory of Information Security, China 2019
- ACM SIGSOFT ICSE Distinguished Paper Award 2018
- Third Prize of NASAC 2018 Prototype Competition 2018
- First Prize of NASAC 2017 Prototype Competition 2017
- Travel Grant from ACM SIGSOFT 2016
- Travel Grant from AsiaCCS 2016 2016
- Excellent Master Thesis in Tianjin 2014
- First Prize of the Competition of Attack and Defense in Tianjin 2011
- Second Prize of the Competition of Attack and Defense in Tianjin 2010
- Excellent Bachelor Thesis in Tianjin University 2009
- University Challenge Cup Bronze Medal 2009
- Award of 9th Science and Technology Talents in Tianjin University 2008
- ACM/ICPC Asian Regional Bronze Medal 2007

SUPERVISED STUDENTS

Currently Supervised Students

- *Yingzhe He, Ph.D (co-supervisor), Institute of Information Engineering, Chinese Academy of Sciences*

- *Zhixiu Guo, Ph.D (co-supervisor), Institute of Information Engineering, Chinese Academy of Sciences*
- *Qintao Shen, Ph.D (co-supervisor), Institute of Information Engineering, Chinese Academy of Sciences*
- *Mingming Zha, Master (co-supervisor), Institute of Information Engineering, Chinese Academy of Sciences*
- *Jiangshan Zhang, Master, Institute of Information Engineering, Chinese Academy of Sciences*
- *Xingbo Hu, Master, Institute of Information Engineering, Chinese Academy of Sciences*
- *Chaoyang Lin, Master (co-supervisor), Institute of Information Engineering, Chinese Academy of Sciences*