

## Jeman Park

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## RESEARCH INTERESTS

Domain Name System (DNS) Security  
The detection and mitigation of DDoS Attack  
Internet of Things (IoT) Security

## EDUCATION

- AUG. 2016 **University of Central Florida**, Orlando, FL  
- Present Ph.D. candidate in COMPUTER SCIENCE
- MAR. 2008 **Korea University**, Seoul, South Korea  
- FEB. 2016 B.S. in COMPUTER AND COMMUNICATION ENGINEERING

## WORK EXPERIENCE

- AUG. 2016 UNIVERSITY OF CENTRAL FLORIDA (UCF), Orlando, Florida, US  
- PRESENT *Research Assistant under Prof. AZIZ MOHAISEN at the Security Analytics Research Lab*
- MAY. 2019 US ARMY RESEARCH LAB (ARL), Adelphi, Maryland, US  
- AUG. 2019 *Researcher (Internship) - Game Theoretical Analysis of Adversarial Behaviors*
- MAY. 2018 US ARMY RESEARCH LAB (ARL), Adelphi, Maryland, US  
- AUG. 2018 *Researcher (Internship) - IoT Security using Graph Theory*
- JAN. 2014 AHNLAB (Information Security Vendor), Seoul, South Korea  
- FEB. 2014 *Software Developer (Internship)*
- DEC. 2012 KOREA UNIVERSITY, Seoul, South Korea  
- DEC. 2015 *Undergraduate Researcher under Prof. HYO-GON KIM at the Wireless Data Communication Lab*

## AWARDS

- Travel grant** In recognition of outstanding interest and commitment for the dependable system and network (IEEE/IFIP DSN 2019)  
JUN. 2019
- KOCSEA award** In recognition of an outstanding research in the competition in KOCSEA technical symposium (3rd place)  
NOV. 2017
- Travel grant** In recognition of outstanding interest and commitment for the advanced knowledge on network and system (ACM Mobisys 2017)  
NOV. 2017
- Excellence award** In recognition of a creative idea and an excellent presentation in the KU start-up competition  
DEC. 2013
- Best presentation** In recognition of an outstanding presentation in Korea Computer Congress (KCC 2013)  
JUL. 2013

## SCHOLARSHIPS

- 2016 - present **Research assistant scholarship**  
Scholarships for research assistant students at University of Central Florida
- 2013 - 2014 **National Scholarship for Software Specialized Program**  
Government scholarships for qualified students in software-specialized program
- 2008 - 2009 **National Scholarship in Natural Sciences and Engineering**  
Government scholarships for high-grading students on the National College Scholastic Ability Test (Korean SAT)

## RESEARCH EXPERIENCE

- 2018 - present **The landscape of open resolvers**  
Figuring out the distribution and the behavior of open resolver and exploring possible threats
- 2018 - present **Cyber deception in Internet of Battlefield Things (IoBT)**  
Mathematical modelling the effectiveness of cyber deception in IoBT
- 2017 - present **Internet of Things (IoT) security**  
Analyzing the possible attacks on the IoT devices and building a system for securing the smart-home networks
- 2017 - 2018 **The evaluation of Very Short Intermittent (VSI) DDoS Attack**  
Evaluated the VSI-DDoS attack in real environment with imperfect synchronization between bots
- 2017 - 2018 **Proactive detection of malicious domain name**  
Proposed a system time difference-based feature for malicious domain name detection
- 2014 - 2015 **The implementation of vehicular communication on a smartphone**  
Implemented and validated the potential of smartphones as Wireless Access in Vehicular Environment (WAVE) devices using Software Defined Radio (SDR)
- 2014 - 2015 **An energy-saving scheme in a video streaming service**  
Designed and implemented a user-side scheme reducing smartphone power consumption while watching video over LTE
- 2013 - 2014 **The function of vertical handover in a multi-screen environment**  
Designed and implemented a system facilitating inter-device handover by extending the conventional UDP header
- 2012 - 2013 **The congestion control in Vehicular Ad-hoc Networks (VANETs)**  
Designed and implemented a scheduling algorithm to reduce collision among periodically broadcasted packets in VANETs environment

## PUBLICATIONS

### Conference Publications

1. **Jeman Park**, Aziz Mohaisen, Charles A. Kamhoua, Michael J. Weisman, Nandi O. Leslie, and Laurent Njilla, "Cyber Deception in the Internet of Battlefield Things: Techniques, Instances, and Assessments", Proceedings of the 20th World Conference on Information Security Applications, **WISA 2019**, Jeju, South Korea, Aug. 21-24, 2019.
2. Ahmed Abusnaina, Aminollah Khormali, Hisham Alasmay, **Jeman Park**, Afsah Anwar, and Aziz Mohaisen, "Adversarial Learning Attacks on Graph-based IoT Malware Detection System", Proceedings of the the 39th IEEE International Conference on Distributed Computing Systems, **IEEE ICDCS 2019**, Dallas, TX, US, Jul 7-10, 2019.
3. **Jeman Park**, Aminollah Khormali, Manar Mohaisen, and Aziz Mohaisen, "Where Are You Taking Me? Behavioral Analysis of Open DNS Resolvers", Proceedings of the 49th IEEE/IFIP International Conference on Dependable Systems and Networks, **IEEE/IFIP DSN 2019**, Portland, OR, US, Jun 24-27, 2019

4. Hisham Alasmery, Afsah Anwar, **Jeman Park**, Jinchun Choi, DaeHun Nyang, and Aziz Mohaisen: "*Graph-based Comparison of IoT and Android Malware*", Proceedings of the 16th International Conference on Social Networks, **CSoNet 2018**, Shanghai, China, Dec 18-20, 2018
5. **Jeman Park**, DaeHun Nyang, and Aziz Mohaisen: "*Timing is Almost Everything: Realistic Evaluation of the Very Short Intermittent DDoS Attacks*", Proceedings of the 16th International Conference on Privacy, Security and Trust, **PST 2018**, Belfast, Northern Ireland, United Kingdom, Aug 28-30, 2018
6. **Jeman Park**, Hisham Alasmery, Omar Al-Ibrahim, Charles Kamhoua, Kevin Kwiat, Laurent Njilla, and Aziz Mohaisen: "*QoI: Assessing Participation in Threat Information Sharing*", Proceedings of the 43rd International Conference on Acoustics, Speech and Signal Processing, **IEEE ICASSP 2018**, Calgary, Canada, Apr 15-20, 2018
7. Jeffrey Spaulding, **Jeman Park**, Joongheon Kim, and Aziz Mohaisen: "*Proactive Detection of Algorithmically Generated Malicious Domains*", Proceedings of the 32nd International Conference on Information Networking, **ICOIN 2018**, Chiang Mai, Thailand, Jan 10-12, 2018
8. **Jeman Park**, Jihye Kim, Seungho Kuk, Yongtae Park, and Hyogon Kim: "*Exploring Smartphones as WAVE Devices*", Proceedings of the 82nd Vehicular Technology Conference, **IEEE VTC 2015-Fall**, Boston, MA, US, Sep 6-9, 2015
9. **Jeman Park**, Jihoon Ha, and Hyogon Kim: "*N-Screen Environment Implementation Using Extended UDP*", Proceedings of the KIISE Autumn Scientific Meeting, Jeju, South Korea, Nov 15-16, 2013
10. **Jeman Park**, Yongtae Park, and Hyogon Kim: "*Phase Control Algorithm for Resolution of Periodic Transmission Collision in Broadcast Environments*", Proceedings of the Korea Computer Congress, KIISE KCC 2013, Yeosu, South Korea, Jun 26-28, 2013

## Journal Publications

1. **Jeman Park**, Jinchun Choi, DaeHun Nyang, and Aziz Mohaisen: "*Transparency in the New gTLD Era: Evaluating the DNS Centralized Zone Data Service*", **IEEE Transactions on Network and Service Management (TNSM)**, 2019.
2. Hisham Alasmery, Amin Khormali, Afsah Anwar, **Jeman Park**, Jinchun Choi, Ahmed Abusnaina, Amro Awad, DaeHun Nyang, and Aziz Mohaisen: "*Analyzing and Detecting Emerging Internet of Things Malware: A Graph-based Approach*", **IEEE Internet of Things Journal**, 2019
3. Aziz Mohaisen, Omar Alrawi, **Jeman Park**, Joongheon Kim, DaeHun Nyang, and Manar Mohaisen: "*Network-based Analysis and Classification of Malware using Behavioral Artifacts Ordering*", **EAI Endorsed Transactions on Security and Safety**, Vol. 5, No. 16, 2018
4. Jeffrey Spaulding, **Jeman Park**, Joongheon Kim, DaeHun Nyang, and Aziz Mohaisen: "*Thriving on Chaos: Proactive Detection of Command and Control Domains in Internet of Things-Scale Botnets using DRIFT*", **Wiley Transactions on Emerging Telecommunications Technologies**, e3505, 2018
5. Song Gun Lee, **Jeman Park**, and Hyogon Kim: "*A User-Side Energy-Saving Video Streaming Scheme for LTE Devices*", **IEEE Communication Letters**, Vol. 19, No. 6, pp. 965-968, 2015

## Posters and Demos

1. Ahmed Abusnaina, Aminollah Khormali, Hisham Alasmery, **Jeman Park**, Afsah Anwar, Ulku Meteriz, and Aziz Mohaisen: "*Breaking Graph-based IoT Malware Detection System*", The 12th ACM Conference on Security and Privacy, **ACM WiSec**, Miami, FL, US, May 15-17, 2019
2. Ahmed Abusnaina, Aminollah Khormali, Hisham Alasmery, **Jeman Park**, Afsah Anwar, Ulku Meteriz, and Aziz Mohaisen: "*Leveraging Adversarial Learning into Graph-based IoT Malware Detection Systems*", Network and Distributed System Security Symposium, **ISOC NDSS**, San Diego, CA, US, Feb 24-27, 2019
3. Hisham Alasmery, Aminollah Khormali, Afsah Anwar, **Jeman Park**, Aziz Mohaisen, and DaeHun Nyang: "*Analyzing, Comparing, and Detection Emerging Malware: A Graph-based Approach*", Network and Distributed System Security Symposium, **ISOC NDSS**, San Diego, CA, US, Feb 24-27, 2019

4. **Jeman Park** and Aziz Mohaisen: "*Beyond Free Riding: Quality of Indicators for Assessing Participation in Threat Information Sharing*", The 18th Korean Computer Scientists and Engineers Association in America Technical Symposium, **KOCSEA**, Las Vegas, NV, US, Nov 10-11, 2017

## PROFESSIONAL SERVICE

2019 External Reviewer **IEEE Communications Surveys & Tutorials**  
2019 External Reviewer IEEE LANMAN 2019  
2019 Web Chair ACM CoNEXT 2019  
2018 Reviewer **ETRI Journal (Wiley)**  
2017 Voluteer ACM Mobisys 2017

## TECHNICAL SKILLS

Well Experienced: PYTHON, JAVA, C, C++, LATEX, GNUplot  
Some Experienced: LINUX, mySQL, ANDROID with JNI  
Basic Experienced: PHP, JSP, JAVASCRIPTS (NodeJS), HTML, STRUTS, C#

## ACTIVITIES & OTHER EXPERIENCE

SEP. 2018 Korean Student Association at University of Central Florida  
- PRESENT **President**

SEP. 2012 Korea University Korean Language Center  
- AUG. 2013 **Korean Language Tutor for International Student (Volunteer)**

MAY. 2010 Republic of Korea Army  
- FEB. 2012 **Soldier serving mandatory military service (Honorable discharge)**

MAR. 2008 Student Council in College of Information and Communication, Korea Univ.  
- FEB. 2009 **Policy Director**