

Seunghyeon Lee (이승현)

KAIST, 291, Daehak-ro, Yuseung-gu, Daejeon, 34141, South Korea
E seunghyeon AT kaist.ac.kr
www.nss.kaist.ac.kr / www.sdnsecurity.org

Summary

Seunghyeon Lee is currently a Ph.D. student at SoC (School of Computing) at KAIST, where he is working with Dr. Seungwon Shin at NSS (Network and System Security Laboratory). He is primarily interested in the area of network security including an SDN (Software-Defined Networking) and a network debugging.

Education

- Korea Advanced Institute of Science and Technology (KAIST)** **Mar 2015 - Present**
Ph.D. student, School of Computing (Advisor: Dr. Seungwon Shin)
- Korea Advanced Institute of Science and Technology (KAIST)** **Mar 2013 - Feb 2015**
Master of Science in Engineering - Information Security (Advisor: Dr. Brent Byunghoon Kang)
(Thesis title: sCARF: Collaborative Response Framework for Reducing Threat Semantic Gap)
- Chungnam National University** **Mar 2007 - Feb 2013**
Bachelor of Science in Computer Science

Publication

- (SCN) Security and Communication Networks 2017** **Dec 2017**
Title: Duo: Software Defined Intrusion Tolerant System using Dual Cluster [[paper](#)]
Authors: Yongjae Lee, **Seunghyeon Lee**, Hyunmin Seo, Changhoon Yoo, Seungwon Shin* , and Hyunsoo Yoon
- (DSN) Dependable Systems and Networks 2017** **Jun 2017**
Title: Athena: A Framework for Scalable Anomaly Detection in Software-Defined Networks [[paper](#)]
(Acceptance ratio 22.2%=49/220)
Authors: **Seunghyeon Lee**, Jinwoo Kim, Seungwon Shin, Phillip Porras, Vinod Yegneswaran
- (SCN) Security and Communication Networks 2015** **Oct 2015**
Title: Vulnerabilities of Network OS and Mitigation with State-based Permission System [[paper](#)]
Authors: Jiseong Noh, **Seunghyeon Lee**, Jaehyun Park, Seungwon Shin, Brent Byunghoon Kang
- (SOSR) ACM SIGCOMM Symposium on SDN Research 2015** **Jun 2015**
Title: A playground for Software-defined Networking Security (Demo) [[paper](#)]
Authors: **Seunghyeon Lee**, Chanhee Lee, Hyeonseong Jo, Jinwoo Kim, Seungsoo Lee, Jaehyun Nam, Taejune Park, Changhoon Yoon, Yeonkeun Kim, Heedo Kang, and Seungwon Shin

Software Release

- Athena** **Jun 2017**
The network anomaly detection framework in SDN networks [[Link](#)]

Projects

- Institute for Information & communications Technology Promotion (IITP), South Korea** **Jun 2015 - Present**
Global SDN/NFV Open-Source Software Core Module/Function Development
- Korea Institute of Science and Technology Information (KISTI)** **Mar 2015 - Nov 2016**
Research in distributed control plane clustering and network virtualization for SDN

National IT Industry Promotion Agency, South Korea **Dec 2014 - May 2015**
Development of SDN/OpenFlow based network security framework and service

Agency for Defense Development, South Korea (ADD) **Mar 2014 - Feb 2015**
Technical Consulting on the Test & Evaluation Methodology for Cyber-security Technologies

Awards

Graduate Summa cum laude, Computer Science Department in CNU **Feb 2013**
Graduated with first class honors

2nd prize at 1st Test Of Practical Competency in IT(TOPCIT) competition **Oct 2012**
TOPCIT evaluates the basic core knowledge to solve the problems in accordance with the requirements needed to perform the IT task successfully.

Work experience

International Fellow **Jun 2016 - Sep 2016**
(Internet Security Group, Computing Science Laboratory, Supervisor: Phillip Porras)
SRI International - The Athena project

Research Observer **Dec 2015 - Mar 2016**
(Internet Security Group, Computing Science Laboratory, Supervisor: Phillip Porras)
SRI International - The Athena project

Activities

Manager **Mar 2015 - Present**
SDNSecurity.org (www.sdnsecurity.org)

Teaching Assistant **Mar 2016 - Jun 2016**
IS521 - Cyber Attack & Response I

Teaching Assistant **Mar 2015 - Jun 2015**
IS539 - Network Security

Teaching Assistant **Mar 2014 - Jun 2014**
IS511 - Information Security

Talks

Open Networking Foundation (ONF) **Jun 2016**
Member Work Day - Athena framework

Patents

Domestic (Submitted) **Apr 2016**
METHOD, APPARATUS AND COMPUTER PROGRAM FOR NETWORK ANOMALY DETECTION IN DISTRIBUTED SOFTWARE DEFINED NETWORKING ENVIRONMENT)
Authors: Seungwon Shin, **Seunghyeon Lee**, Jinwoo Kim

References

Dr. Seungwon Shin (E: claude@kaist.ac.kr)

Associate Professor, School of Computing, KAIST

Dr. Brent Byunghoon Kang (E: brentkang@kaist.ac.kr)

Associate Professor, School of Computing, KAIST