Kangkook Jee

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Education

Ph.D. in Computer Science — *New York, USA*
Columbia University — *May 2016*
Ph.D. Thesis: "On Efficiency and Accuracy of Data Flow Tracking Systems" advised by professor Angelos D. Keromytis

M.Phil. in Computer Science — *New York, USA*
Columbia University — *May 2012*

M.Sc. in Computer Science — *New York, USA*
Columbia University — *Dec 2007*

B.S. in Mathematics & Computer Science — *Seoul, South Korea*
Korea University — *Feb 2000*

Work Experience

University of Texas, at Dallas — *Richardson, TX*
Assistant professor, Computer Science Department — *Aug 2019 – Present*

NEC Laboratories America — *Princeton, NJ*
Researcher, Computer Security Department — *Sep 2014 – Jul 2019*

IBM Korea — *Seoul, South Korea*
Advanced technical support staff — *Mar 2001 – Aug 2006*

18 Medical Company, 8th U.S. Army — *Seoul, South Korea*
Information management staff — *Jan 1997 – Mar 1999*

Publications

Conference Publications

C1 J. Wiedemeier, S. Klancher, J. Flores, M. Zheng, J. Park, SK Cha, **K. Jee** *"Walking the Last Mile: Studying Decompiler Output Correction in Practice"*. ACM conference on Computer and Communications Security (CCS) 2025

C2 B. Thuraisingham, **K. Jee**, L. Khan *"An Education Program for Data Driven Security with Machine Learning Applications"*. IEEE Conference on Big Data Security on Cloud (BigDataSecurity) 2025

C3 J. Wiedemeier, E. Tarbet, M. Zheng, S. Ko, J. Ouyang, S.K. Cha, **K. Jee** *"PYLINGUAL: Toward Perfect Decompilation of Evolving High-Level Languages"*. IEEE Symposium on Security and Privacy (SP) 2025

C4 J. Wiedemeier, E. Tarbet, M. Zheng, J. Teng, X. Liu, M. Kim, J. Ouyang, S.K. Cha, **K. Jee** *"PYLINGUAL: A Python Decompilation Framework for Evolving Python Versions"*. BlackHat USA, Aug 2024

C5 K. Mukherjee, J. D. Wiedemeier, Q. Wang, J. Kamimura, J. Rhee, J. Wei, Z. Li, X. Yu, L. Tang, J. Gui, **K. Jee** *"ProvIoT: Detecting Stealthy Attacks in IoT through Federated Edge-Cloud Security"*. International Conference on Applied Cryptography and Network Security (ACNS), Mar 2024.

C6 Z. Zhen, Y. Chen, M. Kantarcioglu, Y. Gel, **K. Jee** *"United We Stand, Divided We Fall: Networks to Graph (N2G) Abstraction for Robust Graph Classification under Graph Label Corruption"*. In Learning on Graphs Conference (LOG), Dec 2023.

C7 C. Wang, Y. Zhou, **K. Jee**, M. Kantarcioglu, *"An Investigation on the Fragility of Graph Neural Networks: The Impact of Node Feature Modification on Graph Classification Accuracy"*. IEEE International Conference on Trust, Privacy and Security in Intelligent Systems and Applications (TPS-ISA), Nov 2023

C8 K Mukherjee, J Wiedemeier, T Wang, J Wei, M Kim, M Kantarcioglu, **K Jee** *"Evading Provenance-Based ML Detectors with Adversarial System Actions"*. In Proceedings of the USENIX Security Symposium, Anaheim CA, August 2023.

C9 H. Kim, S. Kim, J. Lee, **K. Jee**, S. Cha *"Reassembly is Hard: A Reflection on Challenges and Strategies"*. In Proceedings of the USENIX Security Symposium, Anaheim CA, August 2023.

C10 **K. Jee**, M. Lee, O. Daescu, M. Quevedo-Lopez *"A Hands-on Oriented Workforce Development Framework for Space Cyber-Infrastructure (CI)"*. In Proceedings of ISS Research Development Conference (ISSRDC), Aug. 2023

C11 P. Fang, P. Gao, C. Liu, E. Ayday, **K. Jee**, T. Wang, Y. Ye, Z. Liu, X. Xiao *"Back-Propagating System Dependency Impact for Attack Investigation"*. In Proceedings of the USENIX Security Symposium, Boston MA, August 2022.

C12 P. Fei, Z. Li, Z. Wang, X. Yu, D. Li, **K. Jee** Kulkarni, P. Mittal *"SEAL: Storage-efficient Causality Analysis on Enterprise Logs with Query-friendly Compression"*. In Proceedings of the USENIX Security Symposium, Vancouver, BC, August 2021.

C13 Y. Li, Z. Wu, H. Wang, K. Sun, Z. Li, **K. Jee**, J. Rhee, H. Chen *"Utrack: Enterprise User Tracking Based on OS-Level Audit Logs"*. In Proceedings of ACM Conference on Data and Application Security and Privacy (CODASPY), April 2021.

C14 W. U. Hassan, D. Li, **K. Jee**, X. Yu, K. Zou, D. Wang, Z. Chen, Z. Li, J. Rhee, J. Gui, A. Bates *"This is Why We Can't Cache Nice Things: Lightning-Fast Threat Hunting using Suspicion-Based Hierarchical Storage"*. In Proceedings of Annual Computer Security Applications Conference (ACSAC), December 2020

C15 Y. Sun, **K. Jee**, S. Sivakorn, Z. Li, C. Lumezanu, L. Kort-Parn, Z. Wu, J. Rhee, C. Kim, M. Chiang, P. Mittal *"Detecting Malware Injection with Program-DNS Behavior"*. In Proceedings of The European Conference on Security and Privacy (EuroS&P), Genova Italy, September 2020

C16 G. Ayoade, K. Akbar, Pracheta S., Yang G., Agarwal A., **K. Jee**, L. Khan, A. Singhai "Evolving Advanced Persistent Threat Detection using Provenance Graph and Metric Learning". in IEEE Conference on Communications and Network Security (CNS),Avignon, France, 2020

C17 J. Gui, D. Li, Z. Chen, J. Rhee, X. Xiao, M. Zhang, **K. Jee**, Z. Li, and H. Chen *"APTrace: A Responsive System for Agile Enterprise Level Causality Analysis,"* In Proceedings of the IEEE International Conference on Data Engineering (ICDE), Dallas, TX, May 2020

C18 Q. Wang, W. U. Hassan, D. Li, **K. Jee**, X. Yu, K. Zou, J. Rhee, Z. Chen, W. Cheng, C. A. Gunter, and H. Chen, *"You Are What You Do: Hunting Stealthy Malware via Data Provenance Analysis,"* In Proceedings of the Network and Distributed System Security Symposium (NDSS), San Diego, CA, 2020.

C19 S. Sivakorn , **K. Jee**, Y. Sun, L. Kort-Parn, Z. Li, C. Lumezanu, Z. Wu, L. Tang, D. Li *"Countering Malicious Processes with End-point DNS Monitoring"*. In Proceedings of The Network and Distributed System Security Symposium (NDSS), San Diego, CA, February 2019

C20 W. U. Hassan, S. Guo, D. Li, Z. Chen, **K. Jee**, Z. Li, A. Bates *"NoDoze: Combatting Threat Alert Fatigue with Automated Provenance Triage"*. In Proceedings of The Network and Distributed System Security Symposium (NDSS), San Diego, CA, February 2019

C21 Y. Tang, D. Li, Z. Li, M. Zhang, **K. Jee**, Z. Wu, J. Rhee, X. Xiao, F. Xu, Q. Li *"NodeMerge: Template Based Efficient Data Reduction For Big-Data Causality Analysis"*. In Proceedings of the 25th ACM Conference on Computer and Communications Security (CCS), Toronto, Canada, November 2018.

C22 P. Gao, X. Xiao, D. Li, Z. Li, **K. Jee**, Z. Wu, C. Kim, S. R. Kulkarni, P. Mittal *"SAQL: A Stream-based Query System for Real-Time Abnormal System Behavior Detection"*. in Proceedings of the USENIX Security Symposium, August 2018, Baltimore, MD, August 2018.

C23 P. Gao, X. Xiao, Z. Li, **K. Jee**, F. Xu, S. R. Kulkarni, P. Mittal *"AIQL: Enabling Efficient Attack Investigation from System Monitoring Data"*. In Proceedings of Usenix Annual Technical Conference (ATC), Boston, MA, June 2018.

C24 Y. Liu, M. Zhang, D. Li, **K. Jee**, Z. Li, Z. Wu, J. Rhee, P. Mittal *"Towards a Timely Causality Analysis for Enterprise Security"* In Proceedings of The Network and Distributed System Security Symposium (NDSS), San Diego, CA, February 2018

C25 Z. Xu, Z. Wu, Z. Li, **K. Jee**, J. Rhee, X. Xiao, F. Xu, H. Wang, G. Jiang *"High fidelity data reduction for big data security dependency analyses"* In Proceedings of the 23rd ACM Conference on Computer and Communications Security (CCS), Vienna, Austria, November 2016.

C26 M. Pomonis, T. Petsios, **K. Jee**, M. Polychronakis, A. D. Keromytis *"IntFlow: improving the accuracy of arithmetic error detection using information flow tracking"* In Proceedings of Annual Computer Security Applications Conference (ACSAC), New Orleans, LA, December 2014.

C27 **K. Jee**, V. P. Kemerlis, A. D. Keromytis and G. Portokalidis *"ShadowReplica: Efficient Parallelization of Dynamic Data Flow Tracking"* In Proceedings of the 20th ACM Conference on Computer and Communications Security (CCS), Berlin, Germany, November 2018.

C28 V. P. Kemerlis, G. Portokalidis, **K. Jee**, and A. D. Keromytis *"libdft: Practical Dynamic Data Flow Tracking for Commodity System"* In Proceedings of 8th Annual International Conference on Virtual Execution Environments (VEE), London, UK, March 2012.

C29 **K. Jee**, G. Portokalidis, V. P. Kemerlis, S. Ghosh, D. I. August, and A. D. Keromytis *"A General Approach for Efficiently Accelerating Software-based Dynamic Data Flow Tracking on Commodity Hardware"* In Proceedings of The Network and Distributed System Security Symposium (NDSS), San Diego, CA, February 2012

C30 **K. Jee**, S. Sidiroglou-Douskos, A. Stavrou, and A. D. Keromytis. *"An Adversarial Evaluation of Network Signaling and Control Mechanisms"* In Proceedings of the 13th International Conference on Information Security and Cryptology (ICISC), Seoul, South Korea, December 2010.

Journals

J1 A. Akbar, Y. Wang, G. Ayoade, A. Singhal, L. Khan, B. Thuraisingham, **K. Jee** *"Advanced Persistent Threat Detection using Data Provenance and Metric Learning"* published by Transaction on Dependable and Secure Computing IEEE, October 2022

Tutorials

T1 J. Wiedemeier, SK Cha, and **K. Jee** *"Tutorial: Perfect Decompilation of Python Bytecode with PyLingual"* Presented at the ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI), Seoul South Korea, June 2025.

Demo papers

D1 P. Gao, X. Xiao, D. Li, **K. Jee**, H. Chen, S. Kulkarni, and P. Mittal *"Querying Streaming System Monitoring Data for Enterprise System Anomaly Detection."* Presented at the IEEE International Conference on Data Engineering (ICDE), Dallas TX, May 2020.

D2 P. Gao, X. Xiao, Z. Li, **K. Jee**, F. Xu, S. R. Kulkarni, P. Mittal *"A Query System for Efficiently Investigating Complex Attack Behaviors for Enterprise Security."* Presented at the International Conference on Very Large Data Bases (VLDB), Los Angelos, CA, August 2019.

Books

B1 K. Hayashi, **K. Jee**, O. Lascu, H. Pienaar, S. Schreitmueller, T. Tarquinio, J. Thompson *"AIX 5L Practical performance and tuning guide"* published by IBM Press books, ISBN-0738491799 , March 2005

Proposal and Funding

Current

F1 NIST 24012811: UT Dallas Center for Secure and Trustworthy Artificial Intelligence
Co-PI, 8Hmm. /1/24 ∼ 7/31/26, Current budget $962,930

F2 NSF 2321117: CyberTraining: Pilot: CyberTraining for Space CI in Low Earth Orbit (LEO)
PI, 11/1/23 ∼ 10/31/25, Current budget $299,999

F3 NSF 2331424: EAGER: Privacy Preserving Synthetic Graph Generation for System Provenance
PI, 10/1/23 ∼ 9/30/25, Current budget $250,003

Past Awarded

F1 DoD 23011308: DoD Cyber Scholarship Program at UTD
Co-PI, 8/1/23 ∼ 7/31/24, Current budget $348,784.00

F2 UT System: VA Apprenticeship: Cybersecurity Testbed Environment for Workforce Development
PI, 2/1/22 ∼ 1/31/23, Current budget $120,000

Patents

Patents

P1 Confidential machine learning with program compartmentalization.
CH Kim, J Rhee, **K Jee**, LI Zhichun US Patent 11,423,142 issued on Aug 2022.

P2 Graphics processing unit accelerated trusted execution environment.
CH Kim, J Rhee, **K Jee**, LI Zhichun, A Ahmad, H Chen US Patent 11,295,008 issued on Apr 2022.

P3 Real-time threat alert forensic analysis
D Li, **K Jee**, LI Zhichun, Z Chen, X Yu US Patent 11,275,832 issued on Dec 2020.

P4 User-added-value-based ransomware detection and prevention.
Z Wu, Y Li, J Rhee, **K Jee**, Z Li, J Kamimura, LA Tang, Z Chen US Patent 11,223,649 issued on Jan 2022.

P5 Automated threat alert triage via data provenance.
D Li, **K Jee**, Z Chen, LI Zhichun, WU Hassan US Patent 11,194,906 issued on Dec 2021.

P6 Inter-application dependency analysis for improving computer system threat detection.
D Li, **K Jee** , Z Chen, LA Tang, LI Zhichun US Patent 11,030,308 issued on Jun 2021.

P7 Template based data reduction for commercial data mining.
D Li,**K Jee** , LI Zhichun, M Zhang, Z Wu US Patent 11,030,157 issued on Jun 2021.

P8 Host behavior and network analytics based automotive secure gateway.
J Rhee, H Li, HAO Shuai, CH Kim, Z Wu, LI Zhichun, **K Jee**, L Korts-Parn US Patent 10,931,635 issued on Feb 2021.

P9 Automated software safeness categorization with installation lineage and hybrid information sources.
J Rhee, Z Wu, L Korts-Parn, **K Jee**, LI Zhichun, O Setayeshfar US Patent 10,929,539 issued on Feb 2021.

P10 Path-based program lineage inference analysis.
J Rhee, Z Wu, L Korts-Parn, **K Jee**, LI Zhichun, O Setayeshfar US Patent 10,853,487 issued on Dec 2020.

P11 Template based data reduction for security related information flow data.
D Li, **K Jee**, LI Zhichun, M Zhang, Z Wu US Patent 10,733,149 issued on Feb 2020.

P12 Automated blackbox inference of external origin user behavior.
Z Wu, J Rhee, J Yuseok, LI Zhichun, **K Jee**, G Jiang US Patent 10,572,661 issued on Feb 2020.

P13 Host level detect mechanism for malicious DNS activities.
K Jee, LI Zhichun, G Jiang, L Korts-Parn, Z Wu, Y Sun, J Rhee US Patent 10,574,674 issued on Feb 2020.

P14 Blackbox program privilege flow analysis with inferred program behavior context.
J Rhee, J Yuseok, LI Zhichun, **K Jee**, Z Wu, G Jiang US Patent 10,505,962 issued on Dec 2019.

P15 Fine-grained analysis and prevention of invalid privilege transitions.
J. Rhee, Y. Jeon, Z. Li, **K Jee**, Z. Wu, and G. Jiang. US Patent 10,402,564 issued on Sep 2019.

P16 Extraction and comparison of hybrid program binary.
J. Rhee, Z. Li, Z. Wu, **K. Jee**, and G. Jiang. US Patent 10,289,843 issued on May 2019.

Teaching

CS4459: Cyber Attack and Defense Laboratory (CANDL) *Dallas, TX*

University of Texas at Dallas *Spring 2024 – present*

The CANDL is a hands-on security lab course that teaches a broad range of offensive and defensive techniques for computer systems. Specifically, the course consists of eight units featuring hands-on labs in a CTF format in binary reversing and pwning techniques, covering topics from introductory (e.g., stack overflow, shellcode) and intermediate levels (e.g., ROP, format string vulnerabilities) and advanced topics (e.g., heap exploits). The course also covers vulnerability analysis, exploit development, patching vulnerabilities, bug hunting *etc.*

CS6332: System Security and Binary Code Analysis

Dallas, TX

University of Texas at Dallas

Fall 2019 – present

The CS6332, a graduate-level system security course, focuses on the fundamental principles of recent system security research, emphasizing the software execution stack in various system architectures, including desktops, servers, and IoT devices. It examines the impact of system characteristics on security across hardware architectures like x86, AMD64, and ARM, and discusses securing software execution layers, such as code generation pipelines, process-level virtualization, and container environments. The course also tackles the challenges of code generation, deployment, and reversing, especially regarding dynamic language interpreters

CS7301: Advanced topics in System Security

Dallas, TX

University of Texas at Dallas

Spring 2020

The graduate-level, special-topic course comprises three parts. The first offers a historical and principled overview of notable attacks and their defenses, reviewing key static and dynamic techniques used in defense strategies. The second part explores cutting-edge topics in system security research, covering provenance analysis, the Internet of Things (IoT), and Industrial Control Systems/Cyber-Physical Systems (ICS/CPS), to understand and extend traditional methods to new challenges. Finally, we examine machine learning's role in solving modern system security problems.

Introduction to Programming (COMSW3101-003)

NY, New York

Columbia University

Fall 2013

Designed and taught a course, Programming with Python as a graduate research assistant (Enrollment: 14, rating 4.5/5.0)

Student Advising

The University of Texas at Dallas

Ph.D. students

- Kunal Mukherjee, 2019 Fall ∼ 2024 Fall
- Joshua D. Weidemeier, 2022 Fall ∼
- Jaehyun Park, 2024 Spring ∼
- Joel Flores Jacobo, 2024 Fall ∼

Master students

- Simon Klancher, 2024 Summer ∼
- Albert Shouh-Cherng Jean, 2024 Spring
- Nick D. Baker, post-graduation appointment: Amazon Web Service (Spring 2023)
- Jonathan Yu, post-graduation appointment: American Airline (Fall 2022 ∼ Spring 2023)
  JSUGRA: Jonsson School Undergraduate Research Award (Spring 2023)
- Jerry Teng, (Fall 2021 ∼ Spring 2023)
- James A. Wei, post-graduation appointment: Livermore National Lab (Summer 2021 ∼ Fall 2022)
- Anthony T. Maranto, post-graduation appointment: Dell (Summer 2021∼ Spring 2022)
- Henry H. Wang, post-graduation appointment: Microsoft (Fall 2019 ∼ Spring 2021)

Undergraduate students

- Logan S. Cheung, (Summer 2022, Spring 2024∼)
  Clark Summer Research Scholar (Summer 2022)
- Elliot M. Tarbet, (Spring 2023 ∼ Spring 2024)
- Guangze Zu, post-graduation appointment: Meta (Spring 2022)
- David J. Wank, (Spring 2021 ∼ Spring 2023)
  JSUGRA: Jonsson School Undergraduate Research Award (Spring 2022)

Columbia University

Students advising

- Fall 2013: Marios Pomonis, Theofilos Petsios (Ph.D. candidates at Columbia University)
  Project: Arithmetic error detection using information flow tracking with compiler-assisted program instrumentation.
- Spring 2013: Daniel Song (MS student at Columbia University, currently a Ph.D. candidate at Rice University)
  Project: A comparison study of Dynamic Binary Instrumentation (DBI) frameworks
- Fall 2012: Mengqi Zhang (MS student Columbia University, currently a software engineer at Facebook)
  Project: Compiler (LLVM) assisted program instrumentation and hardening

NEC Labs America

Intern Advising

- Summer 2019: Qi Wang (Ph.D. candidate at UIUC).
  Project: SplitBrain: Edge-Cloud Collaborative Security for IoT.
- Summer 2018: Qi Wang (Ph.D. candidate at UIUC).
  Project: End-point Detection and Response for IoT Devices.
- Summer 2017: Suphanee Sivakorn (Ph.D. candidate at Columbia University).
  Project: System to Detect Malicious Processes with End-point DNS Monitoring.
- Summer 2016: Yixin Sun (Ph.D. candidate at Princeton University).
  Project: Analyzing Program DNS Behavior under Malware Injection.
- Summer 2015: Yasser Shalabi (Ph.D. candidate at UIUC).
  Project: Fast and efficient system event collection from Linux kernel.

Talks

Invited Talks

Jul 2025	"PyLingual: Toward Perfect Decompilation of Evolving High-Level Languages", NJU	*Virtual*
Jun 2025	"PyLingual: Toward Perfect Decompilation of Evolving High-Level Languages", SKKU	*Suwon, South Korea*
Jun 2025	"PyLingual: Toward Perfect Decompilation of Evolving High-Level Languages" NSR	*Daejon, South Korea*
Jun 2025	"Safety and Security of Emerging Space Era", CNU	*Daejon, South Korea*
Jun 2025	"PyLingual: Toward Perfect Decompilation of Evolving High-Level Languages", KISTI	*Daejon, South Korea*
Jun 2025	"PyLingual: Toward Perfect Decompilation of Evolving High-Level Languages", ETRI	*Daejon, South Korea*
Mar 2025	"Safety and Security of Emerging Space Era", ETRI	*Daejon, South Korea*
Dec 2024	"PyLingual: Toward Perfect Decompilation of Evolving High-Level Languages", KAIST	*Daejon, South Korea*
May 2024	"There and Back Again: Reverse Engineering Python Binaries", PyCon US 2024	*Pittsburgh, PA*
Feb 2023	"Enhancing System Provenance through Efficient Fine-Grained Data Flow Tracking", AWS security seminar	*Virtual*
Jul 2022	"Hardware Safety and Security in Space Environments", SKKU	*Suwon, South Korea*
Jul 2022	"Machine Learning Security for System Provenance Research", AISec Workshop	*Hongcheon, South Korea*
Sept 2021	"Data Driven Approach for System Security", Korea University	*Seoul, South Korea*
July 2021	"Data Driven Approach for System Security", Soongsil University	*Seoul, South Korea*
Apr 2019	"Finding Flow: Connecting the Dots to Disclose Attacker Trails", NSR	*Daejeon*
Apr 2019	"Finding Flow: Connecting the Dots to Disclose Attacker Trails", KAIST	*Daejeon, South Korea*
Apr 2019	"Finding Flow: Connecting the Dots to Disclose Attacker Trails", SKKU	*Suwon, South Korea*
Dec 2018	"Research Challenges and Opportunities in End-point Detection and Response (EDR)", Security & Privacy PIC Seminar Series, IBM Watson Research	*New York, NY*
Oct 2013	"ShadowReplica: Efficient Parallelization of Dynamic Data Flow Tracking" Security Group Seminar, Stevens Institute of Technology	*Hoboken, NJ*
Jun 2012	"A General Approach for Efficiently Accelerating Software-based Dynamic Data Flow Tracking on Commodity Hardware", IBM PL Day, IBM T. J. Watson Research Center	*New York, NY*
Mar 2011	"A General Approach for Efficiently Accelerating Software-based Dynamic Data Flow Tracking on Commodity Hardware", Liberty Group Seminar, Princeton University	*Princeton, NJ*

Conference Presentations

Aug 2023	"A Hands-on Oriented Workforce Development Framework for Space Cyber-Infrastructure (CI)", ISSRDC	*Seattle, WA*
Feb 2019	"Countering Malicious Processes with Process-DNS Association", Internet Society NDSS	*Sand Diego, CA*
Nov 2018	"NodeMerge: Template Based Efficient Data Reduction For Big-Data Causality Analysis", ACM CCS	*Toronto, Canada*
Nov 2013	"ShadowReplica: Efficient Parallelization of Dynamic Data Flow Tracking", ACM CCS	*Berlin, Germany*
Feb 2012	"A General Approach for Efficiently Accelerating Software-based Dynamic Data Flow Tracking on Commodity Hardware", Internet Society NDSS	*San Diego, CA*

Dec 2010 "An Adversarial Evaluation of Network Signaling and Control Mechanisms", IEEE ICISC *Seoul, South Korea*

Honors & Awards

May 2022 **Teaching Award,** Eric Johnson school of Computer Science and Engineering *Richardson, TX*

May 2021 **Service Award,** Computer Science Department, UT Dallas *Richardson, TX*

Mar 2020 **IEEE Big Data Security Junior Research Award,** IEEE Big Data Security, 2020 *Baltimore, USA*

Aug 2016 **CEATEC Award, Innovation for better society,** CEATEC Japan CPS/IoT Exhibition *Tokyo, Japan*

2014 **2nd Place CyberSecurity for the Next Generation 2014: Americas Round,** Kaspersky lab *Washington, DC*

2008-2014 **Graduate Fellowship,** Graduate Research Assistantship (GRA), Columbia University *New York, USA*

2000 **Army Commendation Medal,** 8th U.S. Army *Seoul, South Korea*

Service

NSF Panel

Review Panelist NSF SaTC, Jan 2024, Virtual, NSF IIS, Mar 2020, Virtual

Technical Panelist NSF SaTC EDU Workshop, Nov 2023, Dallas TX

Invited Participant NSF SaTC Vision 2.0 Workshop, Mar 2023, Dallas TX

Technical Program Committee Member

ACNS 2026 Program Committee Chair

Usenix Security 2024, 2025 Program Committee Member

CCS 2024 Program Committee Member

ISC 2016, 2023, 2025 Program Committee Member

WISA 2021 Program Committee Member

ACSAC 2020 Cloud Security Session Chair

ICDE 2020 Ph.D. forum Session Chair