

Insup Lee

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Research Interests

- **AI for Cybersecurity:** threat intelligence using NLP/LLM, HW security (side-channel analysis), adversarial ML
- **Network and Wireless Security:** drones, robust communications, network IDS, anomaly detection
- **Generative Models:** diffusion transformers and GANs for data augmentation, LLM for vulnerability detection

Education

Korea University , Seoul, Republic of Korea Ph.D. Candidate in Cybersecurity	Sep 2019 – Present
Korea University , Seoul, Republic of Korea B.E. in Cyber Defense	Mar 2014 – Feb 2018

Employment History

Korea University , Seoul, Republic of Korea Lecturer	Sep 2025 – Present
Indiana University Bloomington , Indiana, USA Research Intern	Mar 2025 – Jun 2025
Ministry of National Defense , Republic of Korea Security Engineer (Army Captain)	Aug 2023 – May 2025
• Led AI-based security projects in the UAE with international colleagues (UAE ambassador's commendation)	
Agency for Defense Development (ADD) , Seoul, Republic of Korea Security Researcher	Jul 2018 – Jul 2023
• Conducted AI-based security research and in-house software development (Advisor: Prof. Changhee Choi)	

Publications

- Insup Lee, Daehyeon Bae, Seokhie Hong, and Sangjin Lee, "[LeakDiT: Diffusion Transformers for Trace-Augmented Side-Channel Analysis](#)," IEEE Computer Architecture Letters (CAL), 2025
- Hyoungrok Kim, Donghyeon Lee, Insup Lee, Soohan Lee, and Sangjin Lee "[Multi-Step LLM Pipeline for Enhancing TTP Extraction in Cyber Threat Intelligence k](#)," IEEE Access, 2025
- Insup Lee, Khalifa Alteneiji, and Mohammed Alghfeli, "[Enhancing Modulation Classification via Diffusion Transformers for Drone Video Signal Processing](#)," IEEE Signal Processing Letters (SPL), 2025
- Insup Lee and Changhee Choi, "[MuCamp: Generating Cyber Campaign Variants via TTP Synonym Replacement for Group Attribution](#)," IEEE Trans. on Information and Forensics Security (TIFS), 2025
- Insup Lee and Wonjun Lee, "[UniQGAN: Towards Improved Modulation Classification With Adversarial Robustness Using Scalable Generator Design](#)," IEEE Trans. on Dependable and Secure Computing (TDSC), 2024
- Insup Lee, and Changhee Choi "[Camp2Vec: Embedding Cyber Campaign With ATT&CK Framework for Attack Group Analysis](#)," ICT Express, 2023
- Chanho Shin, Insup Lee, and Changhee Choi "[Exploiting TTP Co-occurrence via GloVe-Based Embedding With ATT&CK Framework](#)," IEEE Access, 2023
- Youngjun Kim, Insup Lee, Hyuk Kwon, Gyeongsik Lee, and Jiwon Yoon, "[BAN: Predicting APT Attack Based on Bayesian Network With MITRE ATT&CK Framework](#)," IEEE Access, 2023
- Insup Lee and Wonjun Lee, "[UniQGAN: Unified Generative Adversarial Networks for Augmented Modulation Classification](#)," IEEE Communications Letters, 2022
- Insup Lee, Heejun Roh, and Wonjun Lee, "[Encrypted Malware Traffic Detection Using Incremental Learning](#)," IEEE INFOCOM - Poster Session, 2020