

Insup Lee

islee94@korea.ac.kr | [LinkedIn](#) | [Homepage](#) | [Google Scholar](#) | [ORCID](#)

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 Sep 2019 – Present
Ph.D. Candidate in Cybersecurity

Korea University, Seoul, Republic of Korea Mar 2014 – Feb 2018
B.E. in Cyber Defense

Employment History

Korea University, Seoul, Republic of Korea Sep 2025 – Present
Lecturer

Indiana University Bloomington, Indiana, USA Mar 2025 – Jun 2025
Research Intern

Ministry of National Defense, Republic of Korea Aug 2023 – May 2025
Security Engineer (Army Captain)

- Led AI-based security projects in the UAE with international colleagues ([UAE ambassador's commendation](#))

Agency for Defense Development (ADD), Seoul, Republic of Korea Jul 2018 – Jul 2023
Researcher

- Carried out three AI-driven cybersecurity projects, conducting research and in-house software development
 - (1) "Detection of Nation-Sponsored Cyber Attacks Using NLP Technologies" (Apr 2021 – Jul 2023)
 - (2) "Generative Models for Cybersecurity Data Augmentation" (Jun 2019 – Oct 2020)
 - (3) "IPADS: Integrated Proactive and Adaptive Defense Systems" (Aug 2018 – May 2019)

Technical Skills

- Frameworks/Tools: PyTorch, Keras, TensorFlow, scikit-learn, pandas, Git, Streamlit, Docker, GNU Radio
- Programming Languages: Python, C, JavaScript, SQL, PHP, HTML, CSS

Selected Publications

- 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
- 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