Jeongkeun Shin, M.S.

✉ jeongkes@andrew.cmu.edu   in LinkedIn   🌐 Personal Website

Education

2024 – Now   🔖 **M.S./Ph.D. in Societal Computing**, Carnegie Mellon University.
Advisor: Professor Kathleen M. Carley

2022 – 2024   🔖 **Ph.D. in Electrical and Computer Engineering**, Carnegie Mellon University.
Advisor: Professor Kathleen M. Carley
Completed Courseworks · Transferred to Software and Societal Systems Department

2020 – 2021   🔖 **M.S. in Electrical and Computer Engineering**, Carnegie Mellon Unviersity.
Advisor: Professor Marios Savvides

2019   🔖 **B.S.E. in Computer Science**, College of Engineering, University of Michigan, Ann Arbor.
Advisor: Professor Walter S. Lasecki

Research Publications

Conference Proceedings

1. J. Shin, L. R. Carley, and K. M. Carley, "Simulation-Based Study on False Alarms in Intrusion Detection Systems for Organizations Facing Dual Phishing and DoS Attacks," in *2024 Annual Modeling and Simulation Conference (ANNSIM)*, Forthcoming.

2. J. Shin, K. M. Carley, and L. R. Carley, "Integrating Human Factors into Agent-Based Simulation for Dynamic Phishing Susceptibility," in *International Conference on Social Computing, Behavioral-Cultural Modeling and Prediction and Behavior Representation in Modeling and Simulation*, Springer, 2023, pp. 169–178.

3. J. Shin, L. R. Carley, G. B. Dobson, and K. M. Carley, "Beyond Accuracy: Cybersecurity Resilience Evaluation of Intrusion Detection System Against DoS Attacks Using Agent-Based Simulation," in *2023 Winter Simulation Conference (WSC)*, 2023.

4. J. Shin, L. R. Carley, G. B. Dobson, and K. M. Carley, "Modeling and Simulation of the Human Firewall Against Phishing Attacks in Small and Medium-Sized Businesses," in *2023 Annual Modeling and Simulation Conference (ANNSIM)*, IEEE, 2023, pp. 369–380.

5. J. Shin, G. B. Dobson, K. M. Carley, and L. R. Carley, "OSIRIS: Organization Simulation in Response to Intrusion Strategies," in *International Conference on Social Computing, Behavioral-Cultural Modeling and Prediction and Behavior Representation in Modeling and Simulation*, Springer, 2022, pp. 134–143.

Posters / Extended Abstracts

1. J. Shin, L. R. Carley, G. B. Dobson, and K. M. Carley, "Leveraging OSIRIS to simulate real-world ransomware attacks on organization," *2022 Winter Simulation Conference (WSC) Poster Session*, 2022.

2. J. Shin, Y. Xu, C. Zhang, X. Zhang, and J. Li, "Finding Integers from Group Orbits," *Illinois Geometry Lab 2017 Open House*, 2017.

Technical Reports

1. J. Shin, G. B. Dobson, L. R. Carley, and K. M. Carley, *Revelation of System and Human Vulnerabilities Across MITRE ATT&CK Techniques with Insights from ChatGPT*, 2023.

Research & Work Experiences

Jan 2022 – Now **Center for Computational Analysis of Social and Organizational Systems**
Developing a responsive digital twin of human organizations that can accommodate a range of cyberattack scenarios, facilitating simulations to assess potential cyberattack damage based on organizational status and member profiles, as well as to test and analyze the effectiveness of various cyberattack defense strategies.

Jan 2020 – Dec 2020 **CyLab Biometrics Center**
Enhanced product detection in panoramic images by developing a model that combines the Attention Branch Network with the Cut-Mix algorithm. Designed the user interface for a plug recognition web application and another web application that simplifies the data cleaning process for improved convenience.

Jan 2020 – May 2020 **Human And Robot Partners Lab**
Created a 3D simulation framework that accurately models employee and customer agents, allowing for the simulation of various daily restaurant scenarios.

Jan 2018 – Jan 2019 **Crowd and Machine Lab**
Created a prototype for a tool facilitating the streamlined submission and review of progress reports from a diverse team of technical contributors. Additionally, conducted research focused on harnessing non-expert crowd feedback to effectively filter out online misinformation.

Jan 2017 – May 2017 **Illinois Geometry Lab**
Designed a fast and efficient simulation program for generating random datasets within the subgroups of $SL_2(Z)$. Additionally, conducted research to identify the integers associated with the curvatures in Apollonian circle packings.

Jan 2014 – Oct 2015 **Republic of Korea Army - Sergeant**
Trained over 1000 Republic of Korea Army Reserve Forces in preparation for wartime conditions, focusing on operational proficiency in equipment movement and the establishment of a supply priority system.

Skills

Languages Proficient in English, Native in Korean

Coding C, C#, C++, Java, Groovy, Python, php, Python, R, Pytorch, Tensorflow

Web Dev Html, css, JavaScript/jQuery, Node.js, React.js, Vue.js

Video Production Davinci Resolve

Awards and Achievements

2024 **Best Paper Runner-Up Award** · 2024 Annual Modeling and Simulation (ANNSIM) Conference

Travel Funding Award · 2024 Annual Modeling and Simulation (ANNSIM) Conference

2023 **Travel Funding Award** · 2023 International Conference on Social Computing, Behavioral-Cultural Modeling and Prediction and Behavior Representation in Modeling and Simulation (SBP-BRiMS).

Travel Funding Award · 2023 Annual Modeling and Simulation (ANNSIM) Conference.

2022 **Travel Funding Award** · 2023 International Conference on Social Computing, Behavioral-Cultural Modeling and Prediction and Behavior Representation in Modeling and Simulation (SBP-BRiMS).

Mentoring

Jun 2024 – Jul 2024 **Tanav Changal** · Summer Internship · Troy High School

May 2023 – Aug 2023 **Devashish Ubale** · MITS Program Summer Internship · Master of Information Technology Strategy (MITS), Carnegie Mellon University · Now at FPrime AI

Academic Services

Peer Review

- 2024 International Conference on Social Computing, Behavioral-Cultural Modeling and Prediction and Behavior Representation in Modeling and Simulation (SBP-BRiMS)
- 2024 Winter Simulation Conference (WSC) Agent-Based Simulation Track