**Tae-Hoon Kim**

Associate Professor of Computer Information Technology

College of Technology, Purdue University Northwest

2200 169th Street, Hammond, IN 46323

Tel: (219) 989-3138, E-mail: taehoon.kim@pnw.edu

***Professional Appointments***

**Associate Professor** July 2017 – Present

Department of Computer Information Technology and Graphics

Purdue University Northwest, Indiana

**Assistant Professor** August 2011 – June 2017

Department of Computer Information Technology and Graphics

Purdue University Northwest, Indiana

**Postdoctoral Research Scientist** January 2011 – June 2011

School of Information Science

University of Pittsburgh, PA

***Professional Preparation***

Oklahoma State University Mechanical Engineering B.S., 1997

University of Colorado, Boulder Interdisciplinary Telecommunications M.S., 2002

University of Pittsburgh Information Science Ph.D., 2010

***External Grants***

***Funded***

1. **Principal Investigator**, NSA/NSF GenCyber K-12 Cybersecurity Capacity Building in Chicago Metropolitan Area, 07/2022-06/2023, $99,982
2. **Co-Principal Investigator,** NSA/NSF GenCyber Summer Camp at Purdue University Northwest, 01/2022-09/2023, $148,915
3. **Principal Investigator**, NSA/NSF Advanced GenCyber Summer Camp at Purdue University Northwest, 03/2020-03/2022, $87,907
4. **Principal Investigator**, ArcelorMittal Global R&D grant, 2019-2021, $9,951
5. **Principal Investigator**, NSA/NSF GenCyber Summer Camp at Purdue University Northwest, 03/2018-03/2019, $98,156
6. **Co-Principal Investigator,** NSA/NSF GenCyber Summer Camp at Purdue University Northwest, 03/2017-03/2018, $96,259
7. **Co-Principal Investigator,** NSF SFS Capacity Building: Expanding the Pipeline: Immersive Learning Curriculum Development for High School Cybersecurity Education. DGE1723666, 08/2017-07/2020, $482,926
8. **Senior Personnel**, NSA/NSF GenCyber Summer Camp at Purdue University Northwest. 03/2016-03/2017, $88,208
9. **Principal Investigator,** ArcelorMittal Global R&D / Design and development of the security features in the web application., $9,950, 2016-2017
10. **Senior Personnel**, NSF REU Site: Sustained Wireless Communication, 2/01/2015-1/31/2018, $325,651
11. **Principal Investigator,** ArcelorMittal Global R&D / Enhancing the usability of the web-application., $2,800, 2014
12. **Principal Investigator,** ArcelorMittal Global R&D / Reliable Web-based Data System Design., $5,000, 2014

***Publications***

1. **Kim, Tae-Hoon**, Myung Kyu Choi, and Hang Seok Choi. "Biomass Fast Pyrolysis Prediction Model through Data-based Prediction Models Coupling with CPFD Simulation." *Journal of Analytical and Applied Pyrolysis* (2022), *Elsevier*: 105448.
2. Long, Xiaoyu, Xianping Wang, Ricardo A. Calix, **Tae-Hoon Kim**, and Keyuan Jiang. "Mapping Chinese Oracle-bone Glyphs to Simplified Glyphs with Generative Adversarial Networks." In 2021 IEEE 12th Annual Ubiquitous Computing, Electronics & Mobile Communication Conference (UEMCON), pp. 0352-0357. IEEE, 2021.
3. Long, Xiaoyu, Xianping Wang, Ricardo A. Calix, **Tae-Hoon Kim**, and Keyuan Jiang. "Categorizing Chinese Glyphs Based on Liushu With Convolutional Neural Networks." In 2021 IEEE 12th Annual Ubiquitous Computing, Electronics & Mobile Communication Conference (UEMCON), pp. 0396-0401. IEEE, 2021.
4. **Kim, T.H.**, Jin, G., Tu, M., “Credential Harvesting Using Raspberry Pi”, 127th ASEE Virtual Annual Conference & Exposition 2020 (ASEE 2020), June 22 – 26, 2020. USA.
5. Lee, J., **Kim, T.H.**, Hwang, Y., “Forecasting Drought Indices Using Machine Learning Algorithm”, 127th ASEE Virtual Annual Conference & Exposition 2020 (ASEE 2020), June 22 – 26, 2020. USA.
6. **Kim, T. H.,** Calix, R., and Patel, D., “Low cost system for laboratory-based course in IT Education using Raspberry Pi”, 126th ASEE Annual Conference, June 2019.
7. Jin, G., Tu, M., **Kim, T.**, Heffron, J., White, J., Trekles, A., “Development and Evaluation of Cybersecurity Education Games for High School Students”, International Journal of Engineering Research & Innovation. 10(1), 25-35. ISSN: 2152-4157, 2018
8. Jin, G., Tu, M., **Kim, T.**, Heffron, J., White, J., “Evaluation of Game-Based Learning in Cybersecurity Education for High School Students”, Journal of Education and Learning (EduLearn). 12(1), 150-158. ISSN: 2089-9823, 2018.
9. **Jin, G., Tu, M., Kim, T., Heffron, J., White, J., “Game based Cybersecurity Training for High School Students”, In Proceedings of the 49th ACM Technical Symposium on Computer Science Education (SIGCSE '18). ACM, New York, NY, USA, 68-73, 2018 (https://dl.acm.org/citation.cfm?id=3159591)**
10. **Kim, T. H.,** Mapa, L., and Jun, M. H., “Framework to develop the customized tool for RFID experiment”, 125th ASEE Annual Conference, June 2018.
11. Natonski, L., Hadden, B., and **Kim, T.H.**, “The Effect of Relay Node and Power Control on Performance in Multi-hop Wireless Network”, 4th National Workshop for REU Research in Networking and System in *IEEE* MASS, 2017.
12. **Kim, T. H.,** Mapa, L., Ramaurthy, D., and Goni, F., “Investigating the Effect of Temperature in RFID Technology”, 124th ASEE Annual Conference, June 2017.
13. **Kim, T. H.**, Fitzgerald, M., and Kurale, M., “The Optimal Receiving Signal Strength to Use the Relay Node in Wireless Network”, 124th ASEE Annual Conference, June 2017.
14. **Kim, T.**, & Jiang, K., & Rajput, V. S., “Adoption of Container-Based Virtualization in IT Education”, ASEE Annual Conference & Exposition, New Orleans, Louisiana. 10.18260/p.26530, June 2016.
15. **Kim, T. H.**, Tipper, D., & Krishnamurthy, P., “Improving the Performance of Multi-Hop Wireless Networks by Selective Transmission Power Control”, *Journal of Information and Communication Convergence Engineering*, *13*(1), 7-14, 2015.
16. Kim, J.-K., Sohn, W.-S., **Kim, T.-H.**, and Lee, Y., “Area Correction for Annotation Interface of Touch Tablets”, *An International Interdisciplinary Journal: Information*, 2014.
17. **T.-H. Kim**, D. Tipper, and P. Krishnamurthy, “Localized Algorithm to Improve Connectivity and Topological Resilience of Multi-hop Wireless Networks”, Journal of Information and Communications Convergence Engineering, Vol. 11, No. 2, June 2013.
18. J-K. Kim, W.-S. Sohn, **T.-H. Kim**, and Y. Lee, “Annotation-based Smart User interface for Digital Textbook”, International Conference on Advanced Information Technology and Sensor Application (AITS), 2012.
19. **Kim, T. H.**, Tipper, D., & Krishnamurthy, P. (2011, June). Improving the Connectivity of Heterogeneous Multi-Hop Wireless Networks. In *International Conference on Communications (ICC), 2011 IEEE* (pp. 1-6). IEEE.
20. **T.-H. Kim**, D. Tipper, P. Krishnamurthy, and L. Swindlehurst, “Improving the Topological Resilience of Mobile Ad Hoc Networks”, Design of Reliable Communication Networks (DRCN), 2009.
21. **T.-H. Kim**, D. Tipper, and P. Krishnamurthy, “Connectivity and Critical Point Behavior in Mobile Ad hoc Sensor Networks”, IEEE Symposium on Computers and Communications (ISCC), 2009.
22. T. Hayajneh, P. Krishnamurthy, D. Tipper, and **T.-H. Kim**, “Detecting Malicious Packet Dropping in the Presence of Collisions and Channel Errors in Wireless Ad hoc Networks”, IEEE International Conference on Communications (ICC), 2009
23. **T.-H. Kim** and C.-K. Lin, “Network Lifetime Evaluation in Wireless Sensor Networks: Case Study”, International Telecommunications Education and Research Association (ITERA), 2007.

***Presentations***

1. “Smart health care system using IoT, AI, and Blockchain”, KEIT forum in KSEA conference, O’Hare, IL, August 15, 2019.
2. American Society of Engineering Education (ASEE), 2016, 2017, 2018, 2019, 2020
3. IEEE International Conference on Communications (ICC), 2011
4. Design of Reliable Communication Networks (DRCN), 2009
5. IEEE Symposium on Computers and Communications (ISCC), 2009
6. International Telecommunications Education and Research Association (ITERA), 2007

***Invited Talks***

1. Industry 4.0, Smart Energy Plant System workshop at Yonsei University, Wonju, Republic of Korea. (October 15, 2019)
2. AI and Application to Smart Energy Plant Design & Operation workshop at Yonsei University, Wonju, Republic of Korea. (October 16, 2019)

***Teaching experience***

*Undergraduate courses*

* Introduction to Computer Algorithms and Logic
* Network Technologies
* Internetworking Technologies
* Introduction to Artificial Intelligence
* Advanced Operating System
* Data Communications
* Disaster Recovery and Planning
* Network Design and Implementation
* Large Scale High Performance System
* Mobile Application Development

*Graduate courses*

* Network Performance
* Network Security and Management
* Computer Network and Communication
* Blockchain Technologies

***Professional Memberships***

* Institute of Electrical and Electronics Engineers (IEEE)
* IEEE Communications Society (COMSOC)
* Association for Computing Machinery (ACM)
* American Society for Engineering Education (ASEE)