PROMOTION RECOMMENDATION
The University of Michigan-Dearborn
College of Engineering and Computer Science

Junho Hong, assistant professor of electrical and computer engineering, Department of Electrical and Computer Engineering, College of Engineering and Computer Science, is recommended for promotion to associate professor of electrical and computer engineering, with tenure, Department of Electrical and Computer Engineering, College of Engineering and Computer Science.

Academic Degrees:
Ph.D.   2014   Electrical Engineering, Washington State University, Pullman, WI
M.S.   2010   Electrical Engineering, Myongji University, Seoul, South Korea
B. S.   2008   Electrical Engineering, Myongji University, Seoul, South Korea

Professional Record:
2019-present   Assistant Professor, University of Michigan-Dearborn, Dearborn, MI
2016-2019   Senior Research Scientist, ABB Inc., Raleigh, NC
2014-2016   Research Scientist, ABB Inc., Raleigh, NC

Summary of Evaluation:
Teaching: Professor Hong is rated excellent in teaching. Professor Hong has been recognized for his exceptional skills in teaching, having established a comprehensive and outstanding record in various aspects of pedagogy. This includes his prowess in classroom instruction, his innovative contributions to curriculum and laboratory development, and his dedication to student mentorship. In his role, Professor Hong has taught a diverse array of courses, encompassing both undergraduate and graduate levels. These courses cover critical areas such as power system operation, industrial communication systems, and power system protection, highlighting his broad expertise and ability to engage with complex subjects. Beyond his teaching responsibilities, Professor Hong has excelled as a student advisor, significantly contributing to the academic and professional growth of his students. He has effectively supervised a senior design project, guided two National Science Foundation (NSF) research experiences for undergraduate groups, and led a graduate directed study. Additionally, his role as a primary advisor is notable, having mentored one master's student, three Ph.D. candidates, two Doctor of Engineering Students, and four visiting scholars.

Research: Professor Hong is rated excellent in research. His research interests are diverse and impactful, covering key areas such as power and energy systems, autonomous vehicles, and the security of cyber-physical systems in power grids. Since his tenure in the Electrical and Computer Engineering (ECE) department, he has achieved significant academic milestones, including the publication or acceptance of 13 journal papers. His work is recognized in prestigious scientific journals, including *Institute of Electrical and Electronics Engineers (IEEE) Transactions on Smart Grid*, *IEEE Transactions on Power Delivery*, and *IEEE Access*, underscoring the quality and relevance of his research. Moreover, Professor Hong has demonstrated remarkable success in securing external funding for his research endeavors. At UM-Dearborn, he has obtained seven externally funded grants and contracts, totaling over $891,478. This financial support is a testament to the confidence the scientific and research community has in his work. Additionally, Professor

Hong's strong industry connections are evident in his securing equipment donations valued at $183,722, further enhancing the resources and capabilities of his research projects.

Recent and Significant Publications:

Aydin Zaboli, Vo-Nguyen Tuyet-Doan, Yong-Hwa. Kim, Junho Hong, and Wencong Su, "An LSTM-SAE-based Behind-the-Meter Load Forecasting Method," *IEEE Access*, vol. 11, 2023, Impact Factor: 3.476, h-index: 204.

Dong-Hyeon Ryu, Seong-Yun Jeon, Junho Hong, and M.-K. Lee, "Efficient Lp Distance Computation using Function-Hiding Inner Product Encryption for Privacy-Preserving Anomaly Detection," *Sensors* 2023, 23(8), 4169. Impact Factor: 3.9, h-index: 219.

Mansi Girdhar, Junho Hong, and John Moore, "Cybersecurity of Autonomous Vehicles: A Systematic Literature Review of Adversarial Attacks and Defense Models," *IEEE Open Journal of Vehicular Technology*, Vol. 4, pp. 417-437, 2023. Impact Factor: 6.4, h-index: 14.

Subhadip Ghosh, Aydin Zaboli, Junho Hong, and Jaerock Kwon "An Integrated Approach of Threat Analysis for Autonomous Vehicles Perception System," *IEEE Access*, vol. 11, 2023, Impact Factor: 3.476, h-index: 204.

Junho Hong, Ramya Karnati, Chee-Wooi Ten, Soonwoo Lee, and Sungsoo Choi, "Implementation of Secure Sampled Value (SeSV) Messages in Substation Automation System," *IEEE Transactions on Power Delivery*, vol. 37, no. 1, 2022, Impact Factor: 4.4, h-index: 205.

Mansi Girdhar, Junho Hong, Hyojong Lee, and Tai-Jin Song, "Hidden Markov Models based Anomaly Correlations for the Cyber-Physical Security of EV Charging Stations," *IEEE Transactions on Smart Grid*, vo. 13, no. 5, 2022, Impact Factor: 9.6, h-index: 211.

Mansi Girdhar, Yongsik Yoo, Tai-Jin Song, Subhadip Ghosh, and Junho Hong, "Post-Accident Cyberattack Event Analysis for Connected and Automated Vehicles," *IEEE Access*, vol. 10, 2022, Impact Factor: 3.476, h-index: 204.

Ruoxi Zhu, Chen-Ching Liu, Junho Hong, and Jiankang Wang, "Intrusion Detection against MMSbased Measurement Attacks at Digital Substations," *IEEE Access*, vol. 9, 2020, Impact Factor: 3.476, h-index: 204.

In-Sun Choi, Junho Hong, and Tae-Wan Kim, "Multi-agent based Cyber Attack Detection and Mitigation for Distribution Automation System," *IEEE Access*, 2020, Impact Factor: 3.476, index: 204.

Service: Professor Hong is rated excellent in service. Professor Hong has actively participated in service at the department, college, and university levels. He has also made significant contributions to the profession. Within the ECE department, Professor Hong has served on faculty search committees as a committee member in 2021-2022 and chaired a search in 2023. He also served as a committee member of the lecturer review in 2022 and 2023. He was a new certificate program committee member in 2021. He is currently serving on the ECE Ph.D. program committee and ECE program review committee. Professor Hong has also served on the Technical Program Committee of the European Alliance for Innovation International Conference on Smart Grids for Smart Cities, and the track chair of the Institute of Electrical and Electronics Engineers Transportation Electrification Conference and Expo in 2023. He served as the poster/scholarship/mentorship/registration chair for 22nd Korean Computer Scientists and Engineers Association in America Technical Symposium in 2022. He also organized multiple panel sessions and involved many other international working groups and task forces.

External Reviewers:

Reviewer A: "Dr. Hong has a great track record of well-funded research, sponsored by a variety of agencies, including DOE, National Lab, and industry. This diversity of funding support is not only a clear sign of the importance of his research but also enables him to conduct stable and continuous research in the future."

Reviewer B: "Dr. Hong's research contributions and track records are truly exceptional and have left a significant mark in the fields of power systems, power electronics, transportation electrification, and cybersecurity. I wholeheartedly endorse Dr. Hong's application for tenure promotion and firmly believe that his continued contributions will further elevate the academic standing and research excellence of our institution."

Reviewer C: "His contribution in the area of cybersecurity in power grid, substations, and electric vehicles has been recognized in the field and demonstrated by a number of his papers in IEEE Transactions on Smart Grid and IEEE Access, which are among the most authoritative journals in the field of electric power."

Reviewer D: "Dr. Hong definitely has the visibility that a mid-career professor should have. Besides his strong publication records, he has served editorial roles in well-known academic journals, including IEEE Access."

Reviewer E: "I think very highly of Dr. Hong's academic record and technical contributions. He has my strong support for his promotion to Associate Professor with Tenure."

Summary of Recommendation: Professor Hong is renowned for his extensive contributions to the fields of power and energy systems, autonomous vehicle technology, and the security of cyber-physical systems within power grids. His expertise and dedication not only advance these critical areas but also serve as a beacon of inspiration and guidance in academia. As an educator, Professor Hong excels in his role, embodying the qualities of an exceptional teacher and mentor. His leadership extends beyond academic boundaries, evident in his significant involvement in both external and internal service, showcasing his commitment to fostering growth and innovation in his field. We are very pleased to recommend, with strong support of the College of Engineering and Computer Science Executive Committee, Junho Hong for promotion to associate professor electrical and computer engineering, with tenure, Department of Electrical and Computer Engineering, College of Engineering and Computer Science.

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Ghassan Kridli, Dean   Domenico Grasso, Chancellor
College of Engineering and Computer Science   University of Michigan-Dearborn

May 2024