

Curriculum Vitae



Jeonghun Choi

jhchoi@unist.ac.kr

H. P. +82-10-2994-0103

Ulsan National Institute of Science and Technology
UNIST Gil-50(44919), Ulsan, Republic of KOREA

AFFILIATION

5th Semester in the Ph.D. Course
Nuclear Safety Assessment and Plant HMI Evolution Laboratory (NUSAPHE)
Ulsan National Institute of Science & Technology (UNIST)
UNIST-gil 50, Ulsan Metropolitan City, Republic of Korea, 44919

EDUCATION

- **Bachelor's degree**
 - Major: Mechanical, Aerospace and Nuclear Engineering (UNIST, Ulsan, Korea, Feb. 2013 ~ Aug. 2018)
- **Master's degree**
 - Major: Nuclear Engineering (UNIST, Ulsan, Korea, Feb. 2018 ~ Aug. 2020)

RESEARCH INTEREST

- **Nuclear Engineering**
 - Operator support system
 - Signal validation

PUBLICATIONS (SCI ONLY)

Jeonghun Choi, Hyoungju Kim, Wondea Jung, Seung Jun Lee, "Analysis of interface management tasks in an advanced main control room", Nuclear Engineering and Technology, vol 51, pp. 1554-1560 (2019) <https://doi.org/10.1016/j.net.2019.04.010>

Jeonghun Choi, Seung Jun Lee, "Consistency index-based sensor fault detection system for nuclear power plant emergency situations using an LSTM network", Sensors, 20(6): 1651 (2020); <https://doi.org/10.3390/s20061651>

Jeonghun Choi, Seung Jun Lee, "A Sensor Fault-Tolerant Accident Diagnosis System", Sensors 2020, 20(20), 5839; <https://doi.org/10.3390/s20205839>

Jeonghun Choi, Seung Jun Lee, "RNN-based integrated system for real-time sensor fault detection and fault-informed accident diagnosis in nuclear power plant accidents", Nuclear Engineering and Technology, In Press, Journal Pre-proof (2022); <https://doi.org/10.1016/j.net.2022.10.035>

INTERNATIONAL CONFERENCES

Jeonghun Choi, Seung Jun Lee, "Analysis of interface management tasks: Focusing on a computerized procedure system operation at the emergency scenario simulation", 2018 ANS Winter, Orlando, U.S. (2018.11)

Jeonghun Choi, Seung Jun Lee, "Framework of sensor inconsistency detection system for nuclear power plants", AHFE2019, Washington D.C (2019.07)

Jeonghun Choi, Hyungjun Kim, Seung Jun Lee, "Analysis of crew communication during the emergency situation in an advanced control room", 2019 ASRAM, Gyeongju, South Korea (2019.10)

Jeonghun Choi, Seung Jun Lee, "Consistency index based faulty sensor detection and mitigation system", AHFE2020, Virtual conference (2020.07)

Jeonghun Choi, Seung Jun Lee, "Virtual sensor robust to faults in the nuclear power plant accidents", AHFE2021, Virtual conference (2021.07)

Jeonghun Choi, Seung Jun Lee, "Comparison of Autoencoder Models for Signal Reconstructions in Nuclear Power Plant Emergencies", PHMAP 2021, Hybrid conference (2021.07)

Jeonghun Choi, Seung Jun Lee, "Sensor fault detection based on signal reconstruction RNNs with an input selection", ISOFIC 2021 (2021. 11)

Jeonghun Choi, Seung Jun Lee, "Comparison of sensor fault detection models in nuclear power plant emergencies", ICSRS 2021 (2021. 11)

Jeonghun Choi, Seung Jun Lee, " Optimization of signal reconstruction autoencoder for sensor fault detection in nuclear emergencies ", AHFE 2022 (2022. 07)

Jeonghun Choi, Seung Jun Lee, " Generative model for sensor fault detection in nuclear power plant accidents", NPIC&HMIT 2023 (2023. 07)

DOMESTIC CONFERENCES

Jeonghun Choi, Seung Jun Lee, "Abnormal sensor detection using consistency index in accident situation", 2019 KNS autumn, Goyang, South Korea (2019.10)

Jeonghun Choi, Seung Jun Lee, "Strategy for accident diagnosis in sensor error states", 2020 KNS Spring, Virtual conference, South Korea (2020.07)

Jeonghun Choi, Seung Jun Lee, "Autoencoder optimizations for the signal validation in nuclear power plant accidents", 2021 KNS spring, South Korea (2021.10)

Jeonghun Choi, Seung Jun Lee, "Application of sensor fault-tolerant accident diagnosis model in a nuclear power plant with real-time data ", 2022 KNS autumn, South Korea (2022.05)

Jeonghun Choi, Seung Jun Lee, "Signal validation in nuclear power plant accidents using a diffusion model", 2023 KNS Spring, South Korea (2023.05)

TRAININGS

- RELAP5, TRACE, RELAP/SCDAPSIM, MARS-KS training course (Barcelona, Spain, 2019.06)
- Compact Nuclear Simulator training course (Daejeon, 2020.11)

AWARDS AND SCHOLARSHIP

2020 Doosan Heavy Industries & Construction Co. scholarship (2020. 10)