Woonggy Kim

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PROFESSIONAL EXPERIENCE

Senior Software Engineer, Automotive S/W Security Development Team   2020. 8. - Present
Hyundai Autoever Corp., Seoul, South Korea

- Designed and implemented the integration of Media Access Control Security (MACsec) into automotive Ethernet networks to enable secure communication for next-generation E/E architectures.
- Developed high-performance application processor (AP) security technologies based on Trusted Execution Environment (TEE).
- Planned and initiated advanced development of an embedded machine learning framework, including TensorFlow Lite Micro and ONNX-based ML compiler integration for low-power devices.
- Led early-stage software development for UWB-based industrial terminals and automotive controllers, including ADAS platform software and UWB indoor positioning systems.
- Designed and implemented the backend system for vehicle cybersecurity information management in compliance with UN ECE R155 regulations, using Spring Boot and MariaDB.

EDUCATION

Ph.D. in Mechanical Information Engineering   2013. 9. – 2020. 2.
B.A., Electronics Engineering   2007. 3. – 2013. 8.
University of Seoul, Seoul, South Korea

PUBLICATIONS

Google Scholar Profile: https://scholar.google.com/citations?user=iHHuLeYAAAAJ

PAPERS

- W. Kim and M. Sung, "Standalone OPC UA Wrapper for Industrial Monitoring and Control Systems," IEEE Access (IF= 3.557), Vol. 6, pp. 36557-36570, Jul. 2018.
- W. Kim and M. Sung, "Evaluation of EtherCAT Clock Synchronization in Distributed Control Systems," Trans. Korean Soc. Mech. Eng. A, Vol. 38, no. 7, pp. 785-797, Jul. 2014
- W. Kim and M. Sung, "OPC-UA Communication Framework for PLC-based Industrial IoT Applications," in Proc. 2nd. IEEE Int. Conf. IoT Design Implement. (IoTDI), Pittsburg, USA, Apr. 2017, pp. 327-328.
- W. Kim and M. Sung, "Scalable motion control system using EtherCAT-based shared variables," in Proc. 20th. IEEE Int. Conf. Emerging Technologies & Factory Automation (ETFA), Luxembourg, Luxembourg, Sep. 2015.

PATENTS

- W. Kim, H. Kim, J. Gong, "Method and apparatus for sensing occupant in a vehicle," KR Patent KR102635461B1
- M. Sung, M. Lee, W. Kim, K. Jo, "Control method for LMS system based on learning and simulation," KR Patent KR102316924B1
- M. Sung, W. Kim, M. Lee, K. Jo, "Coding education material using physical computing software and coding education method using the same," KR Patent KR102316919B1
- M. Sung, W. Kim, "Method and system for EtherCAT-based distributed clock synchronization," KR Patent KR101492910B1