

**Woonggy (Peter) 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