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PhD (Civil and Environmental Engineering) HKUST & KAIST, BEng (Project Management) Tsinghua

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ACADEMIC QUALIFICATIONS:

- PhD (Civil and Environmental Engineering) (2017), The Hong Kong University of Science and Technology, Hong Kong
- PhD (Civil and Environmental Engineering) (2017), Korea Advanced Institute of Science and Technology, South Korea *(Under the HKUST-KAIST Dual PhD Degree Program)*
- BEng (Project Management) (2013), Tsinghua University, China

EMPLOYMENT RECORD:

- Assistant Professor (2021 – Present), Department of the Built Environment, National University of Singapore, Singapore
- Assistant Professor (2017 – 2021), Department of Building, National University of Singapore, Singapore

UNDERGRADUATE TEACHING:

- PF1103 Digital Construction
- PF2109 Project Feasibility

GRADUATE TEACHING:

- PM5113 Managing Projects using BIM

RESEARCH INTERESTS:

- Computer Vision
- LiDAR for Construction Inspection
- Scan-to-BIM
- Defect Detection
- Machine Learning and Deep Learning

HONORS & AWARDS

- Outstanding Paper Award, The 4th National BIM Conference, Hefei, China, 2018

- Outstanding Reviewer, Journal of Cleaner Production, 2018
- Outstanding Reviewer, Automation in Construction, 2018
- Student Travel Grant, The 3rd International Conference on Civil and Building Engineering Informatics (ICCBEI 2017), Taipei, 2017

SELECTED PUBLICATIONS:

- Wang, B., Yin, C., Luo, H., Cheng, J.C.P.*, and Wang, Q.*, 2021. Fully automated generation of parametric BIM for MEP scenes based on terrestrial laser scanning data. Automation in Construction, 125, 103615.

- Guo, J., Wang, Q.*, and Li, Y., 2021. Semi-supervised learning based on convolutional neural network and uncertainty filter for façade defects classification. Computer-Aided Civil and Infrastructure Engineering, 36(3), 302-317.

- Guo, J., Wang, Q.*, Li, Y., and Liu, P., 2020. Façade defects classification from imbalanced dataset using meta learning-based convolutional neural network. Computer-Aided Civil and Infrastructure Engineering, 35(12), 1403-1418.

- Su, S.*, Wang, Q., Han, L., Hong, J., and Liu, Z., 2020. BIM-DLCA: An integrated dynamic environmental impacts assessment model for buildings. Building and Environment, 183, 107218.

- Tan, Y., Li, S., and Wang, Q.*, 2020. Automated geometric quality inspection of prefabricated housing units using BIM and LiDAR. Remote Sensing, 12(15), 2492.

- Wang, Q., Tan, Y.*, and Mei, Z., 2020. Computational methods of acquisition and processing of 3D point cloud data for construction applications. Archives of Computational Methods in Engineering, 27(2), 479-499.

- Cheng, J.C.P., Chen, W.*, Chen, K., and Wang, Q., 2020. Data-driven predictive maintenance planning framework for MEP components based on BIM and IoT using machine learning algorithms. Automation in Construction, 112, 103087.

- Kim, M.K.*, Thedja, J.P.P., and Wang, Q., 2020. Automated dimensional quality assessment for formwork and rebar of reinforced concrete components using 3D point cloud data. Automation in Construction, 112, 103077.

- Yang, L., Cheng, J.C.P.*, and Wang, Q.*, 2020. Semi-automated generation of parametric BIM for steel structures based on terrestrial laser scanning data. Automation in Construction, 112, 103037.

- Guo, J., Wang, Q.*, and Park, J.H., 2020. Geometric quality inspection of prefabricated MEP modules with 3D laser scanning. Automation in Construction, 111, 103053.