Bo Xiao
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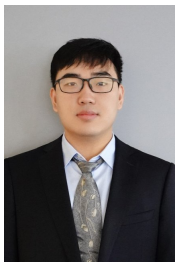

Biography

Dr. Bo XIAO (Eric) received his Ph.D. degree from the University of Alberta in 2021, MASc degree from Concordia University in 2017, and Bacholer degree from the Xi'an University of Architecture and Technology in 2015. He worked as an image algorithm engineer from 2017 to 2018 for developing deep learning algorithms to assist self-driving cars. He is an affiliate member of the American Society of Civil Engineers (ASCE). His research interests include construction informatics, AI in construction, and Project Management.

Education

Employment

Research Assistant Professor

Research Assistant Professor

Department of Building and Real Estate

The Hong Kong Polytechnic University

14 Feb 2022 → present

Journal Publications

[1] **Bo Xiao**, Hairong Xiao, Jingwen Wang, and Yuan Chen (2022). “Vision-based Method for Tracking Workers by Integrating Deep Learning Instance Segmentation in Modular Construction”. Automation in Construction, 137, 104148

[2] **Bo Xiao**, Yuan Chen, Yuxuan Zhang, and Xianfei Yin (2021). “A Semi-Supervised Learning Detection Method for Vision-based Monitoring of Construction Sites based on Integrating Teacher-Student Networks and Data Augmentation”. Advanced Engineering Informatics, 50 (2021): 101372.

[3] **Bo Xiao**, Xianfei Yin, and Shih-Chung Kang (2021). “Vision-Based Method of Automatically Detecting Construction Video Highlights by Integrating Machine Tracking and CNN Feature Extraction”. Automation in Construction, 129, 103817.

[4] **Bo Xiao**, Qiang Lin, and Yuan Chen (2021). “A Vision-Based Method for Automatic Tracking of Construction Machines at Nighttime based on Deep Learning Illumination Enhancement.” Automation in Construction, 127, 103721.

[5] **Bo Xiao**, and Shih-Chung Kang (2021). “Vision-Based Method Integrating Deep Learning Detection for Tracking Multiple Construction Machines”. Journal of Computing in Civil Engineering, 35(2), 04020071.

[6] **Bo Xiao**, and Shih-Chung Kang (2021). “Development of an Image Data Set of Construction Machines for Deep Learning Object Detection”. Journal of Computing in Civil Engineering, 35(2), 05020005.

[7] **Bo Xiao**, and Zhenhua Zhu (2018). “Two-Dimensional Visual Tracking in Construction Scenarios: A Comparative Study”. Journal of Computing in Civil Engineering, 32(3), 04018006.

[8] **Bo Xiao**, Ruiqi Chen, and Zhenhua Zhu (2016). “2D Part-Based Visual Tracking of Hydraulic Excavators.” World Journal of Engineering and Technology, 4(3), 101-111.

Conference Proceedings

[1] **Bo Xiao**, Keith Lam, Jieyu Cui, and Shih-Chung Kang (2019). “Perceptions for Crane Operations.” In 2019 ASCE International Conference on Computing in Civil Engineering: Data, Sensing, and Analytics (pp. 415-421). Reston, VA: American Society of Civil Engineers.

[2] **Bo Xiao**, and Shih-Chung Kang (2019). “Deep Learning Detection for Real-time Construction Machine Checking.” In 2019 International Symposium on Automation and Robotics in Construction (Vol. 36, pp. 1136-1141). IAARC Publications.

[3] Cheng-Hsuan Yang, Tong-Han Wu, **Bo Xiao**, and Shih-Chung Kang. (2019). “Design of a Robotic Software Package for Modular Home Builder.” In ISARC. Proceedings of the International Symposium on Automation and Robotics in Construction (Vol. 36, pp. 1217-1222). IAARC Publications.

Grants

[1] Smart Crane Director - Smart Technologies to Facilitate Safer and More Efficient Erections
NSERC Discovery Grant (2019-2024)
Role: Project Participant
Amount: CAD180,000

[2] Research Capacity Enhancement to Align with Wood Prefab Building Industry
Alberta Innovates Grant (2021)
Role: Project Participant
Amount: CAD 50,000

[3] +Robot Lab, Training Future Engineers to Work with Robots
Department Internal Grant (2019)
Role: Project Participant
Amount: CAD 220,000