Kun Zhao

Visiting PhD Student	Department of Geography and Environmental Management, University of Waterloo
PhD Candidate	School of Mechanical Engineering, Beijing University of Science & Technology

Basic Information

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Birthday: 15.10.1989   Sex: Male

Research Interests

- Autonomous Driving
- Environment Perception
- Deep Learning
- LiDAR Point Cloud Processing
- 3D Vehicle Detection
- Multi-sensory Data Fusion

Education

Beijing University of Science and Technology	Ph.D. Candidate	2016.09-Present
Beijing University of Science and Technology	M.Sc.	2013.09-2016.09
Lu Dong University	B.Sc.	2008.09-2012.07

Research Experiences

Multi-sensory data fusion for 3D object detection   **2018.03-present**

- Research on data processing and representation for LiDAR point cloud
- Structural integration design for multi-sensory data fusion detection network
- Structural optimization for convolutional neural network based on model compression

Low-light image enhancement for traffic sign detection   **2016.09-2018.02**

- Adaptive image enhancement for low-light image
- Improved YOLO 3 for traffic sign detection
- Research on network compression of deep learning model for real-time detection

Research on data fusion of accurate localization for underground mine vehicle   **2013.09-2016.09**

- Overall design of localization system frame for intelligent navigation system
- Analyze the movement mechanism of vehicle and establish the vehicle dynamic model
- Research on topology structure of UWB localization system
- Research on multi-sensory data fusion algorithm

Project Experience

Plan (863) project "Accurate positioning and intelligent navigation for underground metal mining equipment"(20111A060408)   (2011.01-2015.12)   **2013.09-2015.12**

- Design of AGV prototype structure and electrical system
- Electrical system reform of hydraulic LHD for intelligent navigation system
- Design of dual-mode control model for remote and autonomy for intelligent unmanned LHD
- Design of programming for EPEC execution controller (ST programming environment)

Publications

[1]. **Zhao K**, Liu L, *Meng Y, 2019. 3D detection for occluded vehicles from point clouds, IEEE Access, under review.

[2]. **Zhao K**, Liu L, *Meng Y, 2019. Traffic signs detection and recognition in low light images, Chinese Journal of Engineering, under review.

[3]. *Meng Y, Xiao X, **Zhao K**, 2018. An underground localization algorithm and topology optimization based on ultra-wideband, Chinese Journal of Engineering, 40(6), 743-753.

[4]. *Meng Y, **Zhao K**, Gu Q, 2015. Data fusion system for accurate localization of mine vehicles, Chinese Journal of Engineering, 37(2), 59-65.