

# Leihan Chen

RESEARCH SCIENTIST

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## Education

### Wuhan University

B.ENG. REMOTE SENSING AND PHOTOGRAMMETRY

- GPA: 3.7 Rank: 3/108

Wuhan, China

Sep. 2010 - Jun. 2014

### University of New South Wales

DOCTOR OF PHILOSOPHY. CIVIL AND ENVIRONMENTAL ENGINEERING

- Withdraw the program after the first term

Sydney, Australia

Mar. 2015 - Jul. 2015

### York University

M.SC. EARTH AND SPACE SCIENCE

- Master Thesis: Multi-Scale Hierarchical Conditional Random Field for Railway Electrification Scene Classification Using Mobile Laser Scanning Data

Toronto, Canada

Oct. 2015 - Jun. 2018

## Research Experience

### Railway Detection and Scene Understanding of Mobile LiDAR Data using CRF

DEPARTMENT OF EARTH AND SPACE SCIENCE AND ENGINEERING

- Implemented a CRF based algorithm to segment large-scale mobile laser scanning data.

York University, Canada

Oct. 2015 - Jul. 2017

### 3D Indoor Scene Understanding Based on Convolutional Neural Network

DEPARTMENT OF EARTH AND SPACE SCIENCE AND ENGINEERING

- Implemented a Fully Convolutional Network for indoor point cloud semantic segmentation

York University, Canada

Feb. 2017 - Jul. 2017

### Titane Team, INRIA

RESEARCH INTERN

- Object recognition from fire map using consumer-graded camera

Nice, France

Jul. 2017 - Nov. 2017

## Research Interests

**Classical Chinese Poetry** poetry in the period of Division; poetry in late Tang; poetry criticism in Late Imperial

**Marxism & Socialism** Marxism & Christianity, Chinese Socialism, Cultural Revolution

**Chinese Modern Literature** Chinese Transition in Republican Era

## Professional Experience

### School of Remote Sensing and Information Engineering, Wuhan University

RESEARCH ASSISTANT

- The development of Android based cadastral survey software

Wuhan, China

Jul. 2014 - Feb. 2015

### Teledyne Optech

RESEARCH INTERN

- Noise filtering from high-volume airborne lidar data with a combination of machine learning based algorithms

Toronto, Canada

Mar. 2018 - Jun. 2018

### Teledyne Optech

RESEARCH SCIENTIST

- Noise filtering from high-volume airborne lidar data using a variety of deep learning technologies
- 1D waveform processing and noise filtering with bathymetry lidar data

Toronto, Canada

Mar. 2019 - Present

## Extracurricular Activity

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### Department Soccer Team

VICE CAPITAL

Wuhan University, China

Sep. 2012 - Sep. 2013

### Chunyin Chinese Ancient Poetic Society

MEMBER

Wuhan University, China

Sep. 2010 - Jun. 2013

## Honors & Awards

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2017	Mitacs GlobalLink Research Award	Toronto, Canada
2015	IPRS scholarship	Sydney, Australia
2014	First-honor graduate	Wuhan, China
2012	Microsoft Scholarship for Chinese Remote Sensing Student	Wuhan, China
2011	Chinese National Scholarship	Wuhan, China

## Skills

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**Programming** Python, MatLab, C/C++, JAVA, JavaScript

**Office** Microsoft Office,  $\text{\LaTeX}$

**Languages** Chinese (Native), English (Professional proficiency), French (Limited proficiency), Japanese (very limited proficiency)

## Publications

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- [1] Jung, J., **Chen, L.**, Sohn, G., Luo, C. and Won, J.U., 2016. Multi-Range Conditional Random Field for Classifying Railway Electrification System Objects Using Mobile Laser Scanning Data. *Remote Sensing*, 8(12), p.1008 (**Co-first author**).
- [2] Babacan, K., **Chen, L.**, and Sohn, G., 2017. SEMANTIC SEGMENTATION OF INDOOR POINT CLOUDS USING CONVOLUTIONAL NEURAL NETWORK, *ISPRS Ann. Photogramm. Remote Sens. Spatial Inf. Sci.*, IV-4/W4, pp. 101-108, <https://doi.org/10.5194/isprs-annals-IV-4-W4-101-2017>.
- [3] **Chen, L.**, Jung, J. and Sohn, G., 2019. Multi-Scale Hierarchical CRF for Railway Electrification Asset Classification From Mobile Laser Scanning Data. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, 12(8), pp.3131-3148.
- [4] Jameela, M., **Chen, L.**, Sit, A., Yoo, J., Verheggen, C. and Sohn, G., 2020. SIMULATION-BASED DATA AUGMENTATION USING PHYSICAL PRIORS FOR NOISE FILTERING DEEP NEURAL NETWORK. *The International Archives of Photogrammetry, Remote Sensing and Spatial Information Sciences*, 43, pp.247-254.