

# Zhiyi Tang

Ph.D. student  
Harbin Institute of Technology  
Email: tang@stu.hit.edu.cn  
Web: zhiyitang.info

73 Huang-he Road  
Nan-gang District  
Harbin, Heilongjiang  
150090

## Objective

My research studies structural health monitoring (SHM) for civil infrastructures. I am currently interested in developing computationally efficient and statistical guaranteed methods that learn structural behavior and performance under modern deep learning architectures to meet the practical demand from large-scale multimodal SHM data processing.

## Education

|   |                      |
|---|----------------------|
| Ph.D. student, Engineering Mechanics<br>Harbin Institute of Technology, Harbin, China<br>- Advisor: Yuequan Bao   | Since September 2016 |
| Master of Science, Civil Engineering<br>Harbin Institute of Technology, Harbin, China<br>- Thesis: Blind Source Separation of Bridge Multi-Vibration<br>- Advisor: Hui Li               | Sep 2014 – July 2016 |
| Bachelor of Science, Theoretical and Applied Mechanics<br>Harbin Institute of Technology, Harbin, China<br>- Thesis: Long-Span Bridge Aerodynamic Damping Analysis<br>- Advisor: Hui Li | Sep 2009 – July 2013 |

## Publications

1. Bao Yuequan, Chen Zhicheng, Wei Shiyin, Xu Yang, **Tang Zhiyi**, and Li Hui. "The State of the Art of Data Science and Engineering in Structural Health Monitoring." *Engineering*. 2019.
2. Bao Yuequan, **Tang Zhiyi**, Li Hui. "Compressive-Sensing Data Reconstruction for Structural Health Monitoring: A Machine-Learning Approach". *Structural Health Monitoring (SHM)*. 2019.
3. **Tang Zhiyi**, Chen Zhicheng, Bao Yuequan and Li Hui. "Convolutional neural network-based data anomaly detection method using multiple information for structural health monitoring". *Structural Control and Health Monitoring (SCHM)*. 2018.
4. Bao Yuequan, **Tang Zhiyi**, Li Hui and Zhang Yufeng. "Computer vision and deep learning-based data anomaly detection method for structural health monitoring". *Structural Health Monitoring (SHM)*. 2018.

## Work / Teaching Experience

|  |                 |
|--|-----------------|
| Asia-Pacific-Euro Summer School (APESS) on Smart Structures Technology, Qingdao, China<br>Volunteer<br>- Curriculum Planning, Daily Life Support, Final Group Project TA<br>( <a href="https://github.com/dawnnao/APESS2018_Steel_Girder_Crack_ID_dataset">https://github.com/dawnnao/APESS2018_Steel_Girder_Crack_ID_dataset</a> )<br>- Manager: Hui Li | July – Aug 2018 |
|--|-----------------|

Harbin Institute of Technology, Harbin, China  
Teaching Assistant

Sep – Nov 2016

- Developed course material and assignments for structural health monitoring of civil infrastructure
- Instructors: Hui Li, Yuequan Bao

Tibetan Traditional Medical College, Lahsa, China  
Volunteer Teacher

Aug 2013 – July 2014

- English Teaching, Non-Profit Public Service Activities
- Manager: Tsering

## Honors

- 1st Prize Innovation Scholarship of Ministry of Industry and Information Technology (teamwork, 10 persons or teams over 30000 yearly) 2019
- Excellent paper of WTC 2018 (74 over 1829): "Artificial Intelligence-based Data Anomaly Detection Method for Structural Health Monitoring", Beijing 2018
- Best Performance Award - 2nd Prize (8 groups) in APES 2017, Yokohama 2017
- JSTI co. Structural Health Monitoring Graduate Fellowship (3 over 200+ yearly) 2016
- HIT Graduate Scholarship 2014 – 2016
- Source of Love Scholarship for Volunteers 2014
- HIT Best Thesis for Undergraduate (100 over 6,000+ yearly) 2013
- Xianzi Zeng Scholarship for distinguished undergraduates 2010 – 2013
- HIT Dong Liang Scholarship for top grades undergraduates 2010

## Computer Skills

Python, MATLAB, TensorFlow, PyTorch, L<sup>A</sup>T<sub>E</sub>X, R, ANSYS, JavaScript, HTML, CSS, Linux, Mac

## Academic Activities

- Reviewer for *Structural Health Monitoring*
- ASCE student member
- IEEE student member
- 7th World Conference on Structural Control and Monitoring, Qingdao 2018
- 11th Asia-Pacific-Europe Smart Structures Summer School, Qingdao 2018
- 1st World Transportation Convention, Beijing 2018
- 8th Cross-Strait Workshop on Civil Infrastructure Monitoring and Control, Hangzhou 2017
- 10th Asia-Pacific-Europe Smart Structures Summer School, Yokohama 2017