



## Mr. Tang, Pingbo

Civil and Environmental Engineering Department,  
Carnegie Mellon University  
5000 Forbes Avenue,  
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Email: tangpingbo@gmail.com  
Cell phone: 412-527-0016

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### **EDUCATION**

<u>2005 to present</u>	PhD Student Carnegie Mellon University, Civil and Environmental Engineering GPA: 3.83/4.0
<u>2002 to 2005</u>	Master of Science, Bridge Engineering Tongji University, Shanghai, P.R. China GPA: 83/100
<u>1997 to 2002</u>	Bachelor Degree, Civil Engineering Tongji University, Shanghai, P.R. China GPA: 3.15/4.0 (overall), 3.22/4.0 (Core Courses)

### **SUMMARY OF QUALIFICATIONS**

<u>Mathematics:</u>	Excellent mathematic skills, abundant experiences with major math software (Matlab, Maple). My score in the Mathematics Examination of the Graduate Entrance Examination ranked the first in Tongji University.
<u>Computer Skills:</u>	Image processing and 3D data processing skills, programming languages (Java, C, MATLAB, Python), extensive knowledge about integrating multiple software packages for developing solution for specific engineering problems, UML Modeling, 3 years of experiences with AutoCAD,
<u>Computational Intelligence:</u>	Computer Vision for Structure Inspection, Neural Network, Fuzzy System, Knowledge-Based System
<u>Civil Engineering:</u>	Abundant experiences in bridge design, structure analysis, construction surveying and construction supervision.

### **RESEARCH INTERESTS**

<u>Computer Aided Engineering:</u>	Computer Vision for Bridge Inspection, Building Information Model (BIM) and for Construction and Facility Management, Geometric Information Retrieval and Geometric Reasoning, Soft Computing, Product Model and Process Model for Bridge Engineering, Knowledge Representation, Software Engineering
<u>Structure Engineering:</u>	Nonlinear analysis of structures, structural optimization, reliability analysis, construction supervision

### **TEACHING EXPERIENCES**

<u>Fall, 2006, Fall 2007</u>	<b>Engineering Economics, Teaching Assistant</b> , Carnegie Mellon University, Civil and Environmental Engineering Department
<u>Fall, 2006, Fall 2007</u>	<b>AutoCAD, Teaching Assistant</b> , Carnegie Mellon University, Civil and Environmental Engineering Department



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### **PROFESSIONAL EXPERIENCES**

September 10, 2007 to April 14, 2010

**Young Member of Committee on Bridge Management**, AHD35, Transportation Research Board (TRB) of the National Academies, USA

August 2007 to present

**Research Assistant** at Civil and Environmental Engineering Department of Carnegie Mellon University

U.S. General Services Administration (GSA) project "Active Utilization of 3D Imaging Technologies throughout the Life-Cycle of Facilities"

National Institute Standards and Technology (NIST) project "Extending/Augmenting Current Building Information Models with Laser Scanned Data"

May 2007

**Visiting Researcher** at National Institute of Standards and Technology, Gaithersburg, Maryland  
Work together with NIST on a set of ASTM E57 (3D Imaging) experiments for standardized performance evaluation of 3D imaging systems

August 2006 to present

**Research Assistant** at Civil and Environmental Engineering Department of Carnegie Mellon University

Quality assessment of light rail system using laser scanning technology, analyzing capabilities of various scanners and data processing techniques for detecting defects of structures

October 2005 to January 2006

**Research Assistant** at Civil and Environmental Engineering Department of Carnegie Mellon University

Building information model based decision support for first responders, focusing on building fire response.

August 2005 to August 2006

**Research Assistant** at Civil and Environmental Engineering Department of Carnegie Mellon University

Laser scanned data accuracy analysis for bridge inspection, discontinuity noisy data processing

July 2005 to present

**Research Assistant** at Civil and Environmental Engineering Department of Carnegie Mellon University

3D laser scanned data processing, geometric feature extraction and accuracy analysis, developing system supporting geometric information query from 3D data by integrating 3D data with semantically rich building information models

May 2004 to June 2004

**Field Engineer** at the building site of Yangguang Bridge at Yiwu, Zhejiang Province



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Construction supervision, deformation monitoring

December 2003 to January 2004

**Field Engineer** at the building site of Tongyang Canal Bridge at Nantong, Jiangsu Province

Stress monitoring, deformation monitoring

May 2003 to June 2003

**Structural Engineer**

Design of three bridges for Shanghai Finance University and responsible for in-situ monitoring

September 2002 to April 2003

**Research Assistant**, Department of Bridge Engineering, Tongji University

Development of CAD tools for drawing construction drawings using ObjectARX.

March 2002 to July 2002

**Group Leader** of a group which was asked to finish three examples of bridge design for a book at press, Highway Survey and Design Institute of Anhui Province

Design of a curved bridge and writing the calculation example

Serve as the technical superintendent of the group.

### **HONORS**

Fenves Travel Grant, Carnegie Mellon University, 2008

Travel Grant for Young Engineer, IABSE Symposium, IABSE, September, 2007

Dean's Fellowship, Carnegie Mellon University, 2006-2007

Phi-Kappa-Phi Society Member, 2007

Jidian Liang Fellowship, Carnegie Mellon University, 2005

Guanghua Excellent Graduate Fellowship, Tongji University, 2004

Scholarship for Academic Excellent Student of Tongji University, Third Prize, 1999, 2000, 2001

Scholarship for Academic Excellent Student of Tongji University, First Prize, 1998

### **PUBLICATIONS**

Kiziltas, S., Akinci, B., Ergen, E., **Tang, P.**, and Pradhan, A. (2008). "Field Technologies and Their Impact on Management of Supply Chains." Construction Supply Chain Management Handbook, Taylor and Francis Group, LLC.

Kiziltas, S., Akinci B., Ergen, Esin., **Tang, P.**, and Gordon, C. (2008). "Technological assessment and process implications of field data capture technologies for construction and facility/infrastructure management", ITcon Vol. 13, Special Issue Sensors in Construction and Infrastructure Management , pg. 134-154, <http://www.itcon.org/2008/10>

**Tang, P.**, Akinci, B., and James H. Garrett, J. (2007). "Laser Scanning for Bridge Inspection and Management." IABSE Symposium 2007, Weimar, Germany.

**Tang, P.**, Huber, D., and Akinci, B. (2007). "A Comparative Analysis of Depth Discontinuity and Mixed Pixel Detection Algorithms." The 6th International Conference on 3-D Digital Imaging and



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Modeling, IEEE, Montréal, Québec, Canada.

**Tang, P.**, Xiao, R. (2004). "Component Oriented Framework for Distributed System with Application to Bridge Engineering", Proceedings of the 2nd CIB Student Chapter's International Symposium, October 2004, pp.697- 708 (in English)

**Tang, P.**, Xiao R., "A Review of Researches Pertaining to Bridge Integrated CAD and Some New Trends", Proceedings of the 16<sup>th</sup> National Academic Conference on Bridge Engineering, May 2004, pp.254-261(in Chinese)

### **AFFILIATIONS:**

ACM (Association for Computing Machinery), Student Member

IABSE (International Association for Bridge and Structural Engineering), Member

IEEE (Institute of Electrical and Electronics Engineers, Inc.), Student Member

TRB (Transportation Research Board of National Academies), Student Member, Young Member of Committee on Bridge Management