

# Tuyen T. Le, Ph.D. Candidate

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Department of Civil, Construction and Environmental Engineering  
Iowa State University, Ames, Iowa 50014  
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## EDUCATION

*Ph.D., Civil Engineering* August 2014 - May 2017 (expected)  
Iowa State University, Ames, Iowa  
Advisor: Dr. H. David Jeong  
Dissertation: "Natural Language based Partial Model Extraction from Linked Life-Cycle Infrastructure Data Space"

*M.S., Construction Engineering and Management* August 2012 - December 2013  
Ho Chi Minh City University of Technology, Ho Chi Minh, Vietnam  
Advisor: Dr. Long Duc Luong  
Thesis: "Developing a 4D-BIM based Scheduling Framework for Repetitive Projects"

*B.E. with Honors, Civil Engineering* August 2006 - December 2010  
Ho Chi Minh City, University of Technology, Ho Chi Minh, Vietnam

## RESEARCH EXPERIENCE

*Graduate Research Assistant* August 2014 - present  
Iowa State University, Ames, Iowa

- Lead researcher of project: "Guide to Data and Information Sharing Workflows across the Life Cycle of Transportation Assets". Conducted interviews with DOT staff and documented the current practices of life-cycle data sharing.
- Lead researcher of NSF project: "Natural Language Based Data Retrieval Engine for Automated Digital Data Extraction for Civil Infrastructure Projects". Developed a classifier to detect term inconsistency and constructed a digital dictionary of highway technical terms.
- Developed a computational platform for interlinking data generated during the life-cycle of an infrastructure project.

*Graduate Research Assistant* December 2013 - May 2014  
Singapore National University, Singapore

- Designed an algorithm for finding the optimal layout of room functions in hospital projects.

*Lecturer* September 2011 - December 2013  
Ho Chi Minh City University of Technology

- Developed a computerized model for scheduling non-repetitive and repetitive projects under correlated uncertainties.
- Implemented 4D-BIM in scheduling and controlling the construction process of repetitive projects.

## TEACHING and MENTORING EXPERIENCE

### *Research Mentor*

August 2016 – present

Iowa State University, Ames, Iowa

- Supervised a senior student (Alan Hayes) on a funded project.
- Provided him with guidance on data collection and analysis, and edited his writing reports.

### *Instructor*

August 2015 – present

Iowa State University, Ames, Iowa

- Course: CE594A – Planning and Scheduling (Spring 2015, Fall 2015, Spring 2016, Fall 2016)
- Updated syllabus, assignments and exams. Managed the class and responded to questions.

### *Guest Lecturer*

October 2016

Iowa State University, Ames, Iowa

- Course: CE595A – Research Method in Construction Management (Fall 2016)
- Developed and delivered a lecture on the implementation of NLP in civil engineering.

### *Lecturer*

September 2011 – December 2013

Ho Chi Minh City University of Technology

- Courses: 807012 – Economics in Construction; 807018 – Construction Project Management; 804042 – Term Project of Construction Method Design.
- Designed and delivered lectures, and supervised students.

## GRANTS

### *National Science Foundation (NSF)*

September 2016 – September 2019

- Project title: “Natural Language Based Data Retrieval Engine for Automated Digital Data Extraction for Civil Infrastructure Projects” (**Total Awarded:** \$285,305)
- Role: Lead proposal contributor (PI: David Jeong)

### *Iowa Highway Research Board (IHRB) and Midwest Transportation Center (MTC)*

August 2016 – January 2018

- Project title: “Guide to Data and Information Sharing Workflows across the Life Cycle of Transportation Assets” (**Total Awarded:** \$180,000)
- Role: Lead proposal contributor (PI: David Jeong)

### *Project Management Institute (PMI)*

December 2016 – October 2017

- Project title: “Cutting-Edge Advancements in Project Management from across Industry Sectors” (pending)
- Role: Lead proposal contributor (PI: David Jeong)

### *Project Management Institute (PMI)*

January 2016 – December 2017

- Project title: “Project Analytics: Integrating Project Management with Big Data” (unsuccessful)
- Role: Lead proposal contributor (PI: David Jeong)

*Midwest Transportation Center (MTC)*

January 2015 – July 2017

- Project title: "Guide to Transferring Design and Construction Data to Asset Management" (unsuccessful)
- Role: Major proposal contributor (PI: David Jeong)

*Ho Chi Minh City University of Technology*

May 2013 – May 2014

- Project title: "A 4D-based scheduling framework for repetitive projects" (**Total Awarded:** \$1,000)
- Role: Principle Investigator (Co-PI: Long Duc Luong)

## **PUBLICATIONS**

### *Peer-Reviewed Journal Articles*

**Le, T.** and Jeong, H. D. (2016). "NLP-based approach to classifying heterogeneous terms for unambiguous exchange of highway data." *Journal of Computing in Civil Engineering*, ASCE. (In second review)

**Le, T.** and Jeong, H. D. (2016). "Interlinking life-cycle data spaces to support decision making in highway asset management." *Automation in construction* 64: 54-64.

### *Manuscripts in Preparation (for submission within the academic year)*

**Le, T.** and Jeong, H. D. (in preparation). "Automated extraction for partial BIM model using context-aware searching algorithm." *Journal of Computing in Civil Engineering*, ASCE.

**Le, T.** and Jeong, H. D. (in preparation). "An extensive civil engineering lexicon." *Automation in Construction*.

### *Peer-Reviewed Conference Papers (presenter underlined)*

**Le, T.** and Jeong, H. D. (2016). Technical term similarity model for natural language based data retrieval in civil infrastructure projects. *Proceedings of 33rd International Symposium on Automation and Robotics in Construction (ISARC 2016)*, Jul 2016, Auburn, Alabama, USA

**Le, T.** and Jeong, H. D. (2016). A framework for inter-connection of life-cycle highway data islands. *Proceedings of 2016 Construction Research Congress (CRC2016)*, June 2016, Puerto Rico, USA.

**Le, T.** and Luong, D.L., (2013). Scheduling method for repetitive projects under correlated uncertainties. In *13th Conference on Science and Technology – Structure & Architecture Session-2013 HCMUT Vietnam– Faculty of Civil Engineering*. pp. 178. Ho Chi Minh City, Vietnam.

### *Presentations with abstract reviewed (presenter underlined)*

**Le, T.** and Jeong, H. D. (2016). Measuring synonymy of data attributes from heterogeneous sources in transportation projects, US-Korea Conference, August 2016, Dallas, Texas, USA.

**Le, T.** and Jeong, H. D. (2015). Data extraction from highway information model. 2015 Mid-Continent Transportation Research Symposium. Ames, United States.

**Le, T.** and Jeong, H. D. (2015). A digital dictionary of highway technical terms. 5th Annual CCEE Graduate Student Research Showcase and Poster Competition. Ames, United States.

### *Non Peer-Reviewed Articles*

Le, T. and Luong, D.L., (2013). "Developing a 4D-BIM model for scheduling repetitive projects." Vietnamese Journal of Construction, 12-2013, pp.100-103.  
Le, T. and Luong, D.L., (2013). "Scheduling under correlated uncertainties." Vietnamese Journal of Construction, 08-2013, pp.66-71.

### **HORNORS and AWARDS**

Iowa State University Graduate Assistantship	2015 - present
Travel grant from GPSS, Iowa State University (\$180)	January 2016
Travel grant from CCEE Department, Iowa State University (\$350)	May 2016
Iowa State University Presidential Scholars (\$30,000)	2014 - 2015
Outstanding Young Staff Award, Ho Chi Minh City University of Technology	2013
Gold Medal for the best bachelor's degree graduate, Ho Chi Minh City University of Technology	2011
Loa Thanh Award (ranked 2nd) for excellent undergraduate theses, Vietnam Ministry of Education and Training	2011
Bronze Medal in the Vietnam National Mechanics Olympiad, Vietnam Ministry of Education and Training	2009
Kiatagawa scholarship (\$500)	2009 & 2011
Lawrence Sting scholarship & Pony Chung scholarship (Total \$1,000)	2008
Viet-Japan scholarship (\$100)	2007
Investlife scholarship & Viethope scholarship (Total \$200)	2006

### **PROFESSIONAL SERVICES**

<i>Journal reviewer</i>	2015 - present
Journal of Construction Engineering and Management - ASCE (02 manuscripts)	
Construction Research Congress - ASCE (01 manuscript)	
Transportation Research Board - Annual Meetings (02 manuscripts)	

### **PROFESSIONAL AFFILIATIONS**

American Society of Civil Engineers (ASCE), Member (2015-present)