

Xuan Lv, Ph.D.

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EDUCATION

Ph.D. | Civil and Environmental Engineering (Specialization: Construction Management) May 2018

- University of Illinois at Urbana-Champaign, Champaign, IL
- *Dissertation: Semantic Process Analysis and Context-aware Information Retrieval and Analysis for Supporting Transportation Project Environmental Review*
- Advisor: Dr. Nora El-Gohary
- Committee: Dr. Khaled El-Rayes, Dr. Liang Y. Liu

Dr. Mani Golparvar-Fard, Dr. Chengxiang Zhai (Computer Science)

Master of Science | Civil and Environmental Engineering (Specialization: Construction Management) Aug 2012

- University of Illinois at Urbana-Champaign, Champaign, IL

Bachelor of Science | Construction Management Jun 2011

- Wuhan University, Wuhan, P. R. China
- *Dissertation: The Analysis of Big Data on Customer Reviews of Online Shopping*
- Advisor: Dr. Baojun Gao

ACADEMIC POSITIONS

Florida International University

Miami, FL

Assistant Professor

Aug 2018 – Present

Visiting Instructor

Feb 2017 – Aug 2018

University of Illinois at Urbana-Champaign

Champaign, IL

Research/Teaching Assistant at Department of Civil and Environmental Engineering

Aug 2012 – Dec 2016

RESEARCH EXPERIENCE

University of Illinois at Urbana-Champaign

Champaign, IL

Research Assistant

UIUC Strategic Research Initiative Civil Infrastructure Big Data Hub

Aug 2014 – December 2016

- Built web-crawler to collect online information on infrastructure environmental review and to collect stakeholder comments on large-scale infrastructure projects from social media
- Developed the transportation project environmental review semantic model for representing and reasoning about information and information retrieve in the domain
- Developed novel semantic annotation algorithms to annotate documents with concepts in the infrastructure environmental review ontology to support semantic information retrieval
- Proposed semantic information retrieval framework and compared the performance of vector space model-based, and statistical language model-based document ranking methods
- Developed the stakeholder opinion mining framework including the stakeholder concern and opinion extraction, and the stakeholder concern classification and sentimental analysis to facilitate the identification of stakeholder and support early in the project stage

- Studied and analyzed the proposed stakeholder opinion mining framework on identifying stakeholder concern and opinion for real projects

Illinois Center for Transportation (ICT) Project R27-132 “Incorporating NEPA into IDOT and MPO Planning Processes” Aug 2012 - Aug 2014

- Identified potential practices to integrate National Environmental Policy Act (NEPA) into Illinois Department of Transportation (IDOT) and Metropolitan Planning Organization (MPO) planning processes based on a comprehensive literature review, and inputs from experts from IDOT, Federal Highway Administration (FHWA), and MPOs
- Discovered and analyzed the recommended integration practices through interacting with transportation and environmental specialists (more than 40 face-to-face interviews) from IDOT, FHWA, and MPOs
- Developed innovative integrated IDOT-MPO-NEPA planning process, and the guidance document to streamline NEPA and IDOT/MPO Transportation Planning Processes for IDOT

Wuhan University Wuhan, P. R. China
 Research Assistant May 2009 - May 2011

- Assisted Dr. Baojun Gao in writing and editing *Management Information System* book (Published in Nov. 2010, Chinese version available)
- Developed web crawler to collect information over 300,000 sellers from Taobao (the largest Chinese online shopping website)
- Created R scripts to conduct exploratory data analysis on the extracted information, and built multivariate linear regression models to predict how seller information (eg. the type of products sold, the time the seller has been active) would affect the customer rating

PUBLICATIONS

Peer-Reviewed Journal Publications

- Dhakal, S., Zhang, L., and Lv, X. (2019). “Ontology-based semantic modeling to support knowledge classification on disaster resilient construction practices.” *Natural Hazards Review*, submitted.
- Lv, X., and El-Gohary, N.M. (2018). “Stakeholder information extraction for supporting infrastructure project stakeholder opinion mining.” *Journal of Computing in Civil Engineering*, in revision.
- Lv, X., and El-Gohary, N.M. (2018). “Stakeholder opinion mining for supporting infrastructure project decision making.” *Journal of Computing in Civil Engineering*, submitted.
- Lv, X., and El-Gohary, N.M. (2018). “Stakeholder opinion mining framework on identifying stakeholder concern and support for large-scale highway project.” *Automation in Construction*, submitted.
- Lv, X., and El-Gohary, N.M. (2016). “Semantic annotation for supporting context-Aware information retrieval in the transportation project environmental review domain.” *Journal of Computing in Civil Engineering*, 10.1061/(ASCE)CP.1943-5487.0000565, 04016033.
- Lv, X., and El-Gohary, N.M. (2016). “Discovering context-specific integration practices for integrating NEPA into statewide and metropolitan project planning processes.” *Journal of Construction Engineering and Management*, 10.1061/(ASCE)CO.1943-7862.0001129, 04016056.
- Lv, X., and El-Gohary, N.M. (2016). “Enhanced context-based document relevance assessment and ranking for improved information retrieval to support environmental decision making” *Journal of Advanced Engineering Informatics*, 30(4), 737 - 750.

Peer-Reviewed Conference Publication

- Zhang, L., Lv, X., and Dhakal, S. (2019). “A reinforcement learning-based stakeholder value aggregation model for collaborative decision making on disaster resilience.” *2019 ASCE International Conference on Computing in Civil Engineering (I3CE)*, accepted.
- Lv, X., Morshed, S. A., and Zhang, L. (2019). “Automatic key-phrase extraction to support the understanding of infrastructure disaster resilience.” *36th International Symposium on Automation and Robotics in Construction (ISARC 2019)*, accepted.
- Lv, X., and El-Gohary, N.M. (2017). “Stakeholder opinion classification for supporting large-scale transportation project decision making.” *2017 International Workshop on Computing for Civil Engineering (IWCCCE)*, University of Washington, Seattle, WA.
- Lv, X., and El-Gohary, N.M. (2016). “Text analytics for supporting stakeholder opinion mining for large-scale highway.” *2016 International Conference on Sustainable Design, Engineering and Construction (ICSDEC)*, University of Arizona, Tempe, AZ.
- Lv, X., and El-Gohary, N.M. (2016). “Semantic-based information retrieval for supporting project decision making.” *2016 International Conference on Computing in Civil and Building Engineering (ICCBE)*, Osaka University, Osaka, Japan.
- Lv, X., and El-Gohary, N. (2015). “Semantic annotation for context-aware information retrieval for supporting the environmental review of transportation projects.” *2015 ASCE International Conference on Computing in Civil Engineering (IWCCCE)*, University of Texas at Austin, Austin, TX.

Technical Reports

- El-Gohary, N., Liu, L., El-Rayes, K., and Lv, X. (2014). ICT Project R27-132 Incorporating NEPA into IDOT and MPO Planning Processes, Illinois Center for Transportation, Rantoul, IL.
- El-Gohary, N., Liu, L., El-Rayes, K., and Lv, X. (2014). ICT Project R27-132 Incorporating NEPA into IDOT and MPO Planning Processes Guidance Document, Illinois Center for Transportation, Rantoul, IL.
- El-Gohary, N., Liu, L., El-Rayes, K., and Lv, X. (2014). ICT Project R27-132 Incorporating NEPA into IDOT and MPO Planning Processes Internal Interim Report #4, Illinois Center for Transportation, Rantoul, IL.
- El-Gohary, N., Liu, L., El-Rayes, K., and Lv, X. (2014). ICT Project R27-132 Incorporating NEPA into IDOT and MPO Planning Processes Internal Interim Report #3, Illinois Center for Transportation, Rantoul, IL.
- El-Gohary, N., Liu, L., El-Rayes, K., and Lv, X. (2013). ICT Project R27-132 Incorporating NEPA into IDOT and MPO Planning Processes Internal Interim Report #2, Illinois Center for Transportation, Rantoul, IL.
- El-Gohary, N., Liu, L., El-Rayes, K., and Lv, X. (2013). ICT Project R27-132 Incorporating NEPA into IDOT and MPO Planning Processes Internal Interim Report #1, Illinois Center for Transportation, Rantoul, IL.

TEACHING EXPERIENCE

Florida International University

Miami, FL

Instructor of BCN 3753 Financial Management for Construction Organizations

Spring 2017 - Present

Instructor of BCN 3720 Construction Scheduling I

Summer 2017 - Present

- Prepare and instruct lectures on financial management and construction scheduling
- Develop and evaluate homeworks, exams to ensure the students understand course concept
- Provide instructions through weekly office hours and tutoring sessions
- Manage the course website on FIU Blackboard to post course materials and announcements

University of Illinois at Urbana-Champaign

Champaign, IL

Teaching Assistant of CEE 422 - Construction Cost Analysis (Class Size: 140 - 150 Students)

Fall 2013, Spring 2015, Spring 2016, Fall 2016

- Prepared and instructed project sessions and led in-class discussions about construction cost estimating of Harrah's Rincon Hotel & Casino in Center Valley, California
- Evaluated homeworks, exams, project presentations, and reports to ensure the students understand course concepts
- Provided weekly instruction on construction cost estimating through office hours and individual guidance through tutoring appointment
- Managed the course website to post course material and announcements

Grader of CEE 528 - Construction Data Modeling (Class Size: 30 - 40 Students)

Spring 2013, Spring 2014

- Assisted teaching assistant in preparation of tutorial materials on BIM software including Autodesk Revit, Navisworks, and Quantity Takeoff
- Graded course assignments on cost estimating using Autodesk Quantity Takeoff, and 4D scheduling using Navisworks

PROFESSIONAL EXPERIENCE

Environmental Law and Policy Center

Chicago, IL

Engineer Intern

Sep 2012 - Dec 2012

- Estimated the diesel emissions from building construction practices in Chicago based on collected building information and NONROAD model developed by Environmental Protection Agency (EPA)
- Developed hot spot maps and heat maps to obtain a graphical representation of diesel emission of Chicago
- Assisted consultants developing best management practices, ordinance recommendations and possible policy changes to reduce diesel emission in Chicago

SCEGC NO.3 Construction Engineering Group Company Ltd. (One of the Top Contractor in China)

Xi'an, P. R. China

Construction Management Intern (Qin Han Tang Cultural Plaza Project with \$60 Million Investment)

Jan 2011 - Apr 2011

- **Labor management:** assisted the labor manager to coordinate the on-site labors, and developed labor management flow chart based on the outline provided by the labor manager
- **Equipment management:** Assisted the equipment manager in preparing the equipment management log by recording the fleet vehicle working, maintenance, and repair schedule
- **Safety management:** Inspected equipment to be sure it is working properly before using, and trained on-site workers for safety, medical emergency and operating procedure
- **Client communication:** Drafted the project progress and budget reports, and presented the project progress during the client meetings

China United Northwest Institute for Engineering Design & Research Co., Ltd

Xi'an, P. R. China

Construction Cost Estimator Intern

Jun 2010 - Aug 2010

- Conducted quantity takeoffs for the concrete of sub-grade foundation of apartment buildings
- Prepared the initial cost estimate based on the quantify takeoffs and Chinese construction pricing quota

- Assisted consultants in evaluating the cost estimate in the project feasibility study

China Three Gorges Corporation Construction Department

Yichang, P. R. China

Construction Site Intern (Three Gorges Dam Phase 3 Project)

Jun 2009 - Aug 2009

- Assisted the project manager coordinating the installation of generators for the construction of the right bank hydroelectric power plant
- Organized construction drawings and coordinated with maintenance workers to prepare the generator maintenance plan

PROFESSIONAL PRESENTATIONS

- Conference paper presentation “Stakeholder opinion classification for supporting large-scale transportation project decision making.” *2017 International Workshop on Computing for Civil Engineering (IWCCE)*, University of Washington, Seattle, WA, May 2017.
- Conference paper presentation “Text analytics for supporting stakeholder opinion mining for large-scale highway.” *2016 International Conference on Sustainable Design, Engineering and Construction (ICSDEC)*, University of Arizona, Tempe, AZ, May 2016.
- Conference paper presentation “Semantic annotation for context-aware information retrieval for supporting the environmental review of transportation projects.” *2015 ASCE International Conference on Computing in Civil Engineering (IWCCE)*, University of Texas at Austin, Austin, TX, June 2015.

AWARDS & HONORS

- UIUC CSSA Outstanding Leadership Award 2013 - 2014
- UIUC CSSA Outstanding Officer Award 2012 - 2013
- Scholarship for Academic Excellent Student, Wuhan University 2007 - 2008
- Scholarship for Academic Excellent Student, Wuhan University 2008 - 2009
- Wuhan University Outstanding Student 2008 - 2009

ADVISING AND MENTORING EXPERIENCE

- Syed Ahnaf Morshed, Ph.D. student, dissertation topic to be determined, Department of Civil and Environmental Engineering, Florida International University Fall 2018 – Present
- Deven Bhakta, Master student, Moss School of Construction Infrastructure, and Sustainability, Florida International University Spring 2019 – Present
- Lucienne Compres Familia, Master student, Moss School of Construction Infrastructure, and Sustainability, Florida International University Spring 2019 – Present

LEADERSHIP & COMMITTEE SERVICES

Reviewer of Journal of Computing in Civil Engineering 2017 – Present

Member of Faculty Council on Governance of FIU College of Engineering Fall 2018 – Present

UIUC Chinese Students and Scholar Association (CSSA) Champaign, IL

Director of Web and Information Technology Department Apr 2013 - Apr 2014

- Organized bi-weekly group meetings with technicians, assigned tasks, and recommended “officer of the month” based on performance evaluation

- Led the technical team to provide IT support for UIUC CSSA activities, such as design and development of online voting platform and WeChat voting platform for karaoke competition
- Managed the digital team to provide filming, photography, and post production services for UIUC CSSA activities
- Designed and built the web-based news publishing platform for UIUC CSSA News Society

Technician of Web and Information Technology Department

Apr 2012 - Apr 2013

- Maintained and updated UIUC CSSA homepage, BBS, and server
- Published and managed the sponsor ads in UIUC CSSA homepage and BBS
- Worked as photographer or cameraman for UIUC CSSA activities

Volunteer of SCORE November

Nov 2011- May 2012

- Cooperated with other volunteers in designing marketing strategies for local small business, and drafted parts of business referral guide in SCORE Champaign branch, which is a nonprofit association dedicated to educating entrepreneurs and helping small businesses start, grow, and succeed nationwide

PROFESSIONAL MEMBERSHIPS

- Member of American Society of Civil Engineering (ASCE) 2016 – Present
- Member of ASCE Data Sensing and Analysis Committee 2017 – Present
- Member of ASCE Visualization, Information Modelling and Simulation Committee 2017 – Present

SKILLS

- **Language (fluent in both writing and speaking):** Mandarin, English
- **Applications:** MS Office, Protégé, Autodesk Revit, Autodesk Naviswork, Autodesk Quantitytakeoff, Protégé, SQL, SAS, SPSS, Linux
- **Programming languages:**
 - Proficient in: Python, Matlab, PHP, Prolog
 - Familiar with: R, Java, JavaScript, Ruby