Wenying Ji

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EDUCATION

- **Doctor of Philosophy in Civil Engineering**

  University of Alberta, Edmonton, Canada; Dec. 2017

- **Master of Engineering in Civil Engineering (Cum Laude)**

  Texas A&M University, College Station, TX, US; Dec. 2011

- **Bachelor of Civil Engineering (Honours)**

  Southeast University, Nanjing, China; Jun. 2010

APPOINTMENTS

- Assistant Professor, George Mason University, Fairfax, VA, US, Aug. 2018-Present
- Postdoctoral Fellow, University of Alberta, Edmonton, Canada, Jan. 2018-Jul. 2018
- Graduate Research Assistant, University of Alberta, Edmonton, Canada, Sept. 2014-Dec. 2017
- Graduate Teaching Assistant, University of Alberta, Edmonton, Canada, 2015 Fall, 2016 & 2017 Winter
- Project Control Engineer, COFCO Land Holdings, Beijing, China, Feb. 2012-Apr. 2014
- Graduate Assistant, Texas A&M Transportation Institute, College Station, TX, US, Oct. 2010-Oct. 2011

PUBLICATIONS

Dissertation

"Simulation-Based Analytics for Fabrication Quality-Associated Decision Support," Doctoral Dissertation, University of Alberta, June 2018. Advisor: Simaan M. AbouRizk.

Journal Publications *(underlined student co-authors)*

1. Chen, Y., Wang, Q., and **Ji, W.** (2020). Rapid Assessment of Disaster Impacts on Highways Using Social Media. *Journal of Management in Engineering*, 36(5): 04020068. 10.1061/(ASCE)ME.1943-5479.0000836. (Editor's Choice, Sept. 2020)

2. Zhou, Q., Deng, X., Hwang, B., and **Ji, W.** (2020). "Integrated Framework of Horizontal and Vertical Cross-Project Knowledge Transfer Mechanism within Project-Based Organizations." *Journal of Management in Engineering*, 36(5): 04020062. 10.1061/(ASCE)ME.1943-5479.0000828.

3. Wu, L., **Ji, W.**, AbouRizk, S. (2020). "Bayesian inference with Markov Chain Monte Carlo-based numerical approach for input model updating." *Journal of Computing in Civil Engineering*, 34(1): 04019043.

4. **Ji, W.**, Li, Y., and AbouRizk, S. (2019). "Integrated data-driven approach for analyzing pipe welding operator quality performance: A case study." *Automation in Construction*, 106, 102814.

5. Liu, C., **Ji, W.**, AbouRizk, S., and Siu, M. (2019). "Equipment logistics performance measurement using data-driven social network analysis." *Journal of Construction Engineering and Management*,145(5): 04019033.

6. **Ji, W.**, AbouRizk, S., Zaïane, O., and Li, Y. (2018). "Complexity analysis approach for prefabricated construction products using uncertain data clustering." *Journal of Construction Engineering and*

Management, 144(8): 04018063.

7. **Ji, W.**, and AbouRizk, S. (2018). "Data-driven simulation model for quality-induced rework cost estimation and control using absorbing Markov chain." *Journal of Construction Engineering and Management*, 144(8): 04018078.

8. Yuan, J., **Ji, W.**, Guo, J., and Skibniewski, M. J. (2018). "Simulation-based dynamic adjustments of prices and subsidies for transportation PPP projects based on stakeholders' satisfaction." *Transportation*, 46(6), 2309-2345.

9. **Ji, W.**, and AbouRizk, S. (2018). "Simulation-based analytics for quality control decision support: Pipe welding case study." *Journal of Computing in Civil Engineering*, 32(3): 05018002.

10. **Ji, W.**, and AbouRizk, S. (2017). "Credible interval estimation for fraction nonconforming: Analytical and numerical solutions." *Automation in Construction*, 83, 56-67.

11. Lu, M., Liu, J., and **Ji, W.** (2017). "Formalizing a path-float-based approach to determine and interpret total float in project scheduling analysis." *International Journal of Construction Management*, 17 (4), 251-263.

12. Zhang, L., Wu, X., **Ji, W.**, and AbouRizk, S. (2017). "An intelligent approach to estimation of tunnel-induced ground settlement using wavelet packet and support vector machine." *Journal of Computing in Civil Engineering*, 31(2): 04016053.

Conference Publications *(underlined student co-authors)*

1. Li, Y., **Ji, W.**, and AbouRizk, S.M. (2020). "Automated Abstraction of Operation Processes from Unstructured Text for Simulation Modeling." Winter Simulation Conference 2020, Orlando, FL, US.

2. Li, Y., and **Ji, W.** (2020). "Understanding the Dynamics of Information Flow During Disaster Response Using Absorbing Markov Chains." Winter Simulation Conference 2020, Orlando, FL, US.

3. Chen, Y., Wang, Q., and **Ji, W.** (2020). "Assessing Disaster Impacts on Highways Using Social Media: Case Study of Hurricane Harvey." The 2020 ASCE Construction Research Congress, Tempe, AZ, US.

4. Li, Y., and **Ji, W.** (2019). "Enhanced Input Modeling for Construction Simulation using Bayesian Deep Neural Networks." Winter Simulation Conference 2019, National Harbor, MD, US.

5. Chen, Y., Wang, Q., and **Ji, W.** (2019). "A Bayesian-Based Approach for Public Sentiment Modeling." Winter Simulation Conference 2019, National Harbor, MD, US.

6. Li, Y., **Ji, W.**, and AbouRizk, S.M. (2019). "Enhanced Welding Operator Quality Performance Measurement: Work Experience-Integrated Bayesian Prior Determination." The 2019 ASCE International Conference on Computing in Civil Engineering, Atlanta, GA.

7. Werner, M., **Ji, W.**, and AbouRizk, S. (2018). "Improving tunneling simulation using Bayesian updating and Hidden Markov Chains." Winter Simulation Conference 2018, Gothenburg, Sweden.

8. **Ji, W.**, and AbouRizk, S. (2017). "Implementing a data-driven simulation method for quantifying pipe welding operator quality performance." In: Proc. Lean & Computing in Construction Congress (LC3), Vol. 1 (CIB W78), Heraklion, Greece.

9. **Ji, W.**, and AbouRizk, S. (2016). "A Bayesian inference-based simulation approach for estimating fraction nonconforming of pipe spool welding processes." Winter Simulation Conference 2016, Arlington, VA, US.

10. Khafri, A., **Ji, W.**, and AbouRizk, S. (2015). "Simulation-based quantification of request for information influence on module construction piping work." The 27th European Modeling & Simulation Symposium (EMSS 2015), Italy.

GRANTS

1. Title: Modeling of Stakeholder Communication Network in Disaster Response

    Sponsor: 4-VA Collaborative Research Grant

    Role: PI

    Period of Performance: 2020-2021

    Total Amount: $16,400 USD

2. Title: Decision Support System for Enhanced Infrastructure System Serviceability Following Natural Disasters: A Social Media Mining Approach

    Sponsor: The Thomas F. and Kate Miller Jeffress Memorial Trust

    Role: PI

    Period of Performance: 2019-2021

    Total Amount: $120,000 USD

TEACHING RECORDS

New Courses Developed at George Mason University

- CEIE 679 Construction Simulation, 2019-Present
- CEIE 474/574 Construction Computer Application and Informatics, 2018-Present
- CEIE 796 Data Analytics in Construction, Graduate Level, 2018-Present

Courses taught at George Mason University

- CEIE 601 Infrastructure Modeling, Fall 2020

University of Alberta, Edmonton, Canada

- Co-Instructor, CIVE 303 Project Management, 2018 Winter
- Guest Instructor, CIVE 303 Project Management, 2017 Winter
- Guest Instructor, CIVE 606 Design and Analysis of Construction Operations, 2017 Winter
- Teaching Assistant, CIVE 303 Project Management, 2017 Winter
- Teaching Assistant, CIVE 606 Design and Analysis of Construction Operations, 2016 Winter
- Teaching Assistant, CIVE 601 Project Management, 2015 Fall

MENTORSHIP

PhD Students (*Co-supervised Student**)

1. Yitong Li, Civil Engineering, GMU, 2018-Present

2. Yudi Chen, Civil Engineering, GMU, 2018-Present

3. Jing Cao, Visiting Scholar, Central South University, China, 2019-2020

4. Chang Liu*, Civil Engineering, UA, 2020

5. Lingzi Wu*, Civil Engineering, UA, 2020

Master Students

1. Na Wei, Software Engineering, GMU, 2019

Undergraduate Students

1. Angel Umana, GMU, 2020

2. Yitong Li, Dean's Research Program, Civil Engineering, UA, 2017-2018

Thesis Committee Membership

1. Sandarva Murti Sharma, Civil and Environmental Engineering, GMU, 2021

   Advisor: Kuo Tian and Burak Tanyu

2. Ishan Shams, PhD, Geography & Geoinformation, GMU, 2020

   Advisor: Chaowei Yang

3. Pouya Gholizadeh, PhD, Construction Engineering, GMU, 2018

   Advisor: Behzad Esmaeili

Student Organizations

1. Construction Management Association of America (CMAA) Student Chapter at Mason, Fall 2020-Present

SELECTED PRESENTATIONS

Invited Talks at Universities and Companies

- Stakeholder Collaboration Networks for Disaster Response, Dr. Qinghua He's group, Tongji University, Virtual, Aug. 2020

- Human-Centric Infrastructure Resilience Under Disasters, Dr. Yujie Lu's group. Tongji University, Virtual, Jul. 2020

- Simulation-based Analytics for CEM, Southeast University, Nanjing, China, Jul. 2019

- Data-driven Simulation for CEM, New York University, New York, NY, Mar. 2019

- Simulation-based Analytics for Quality Associated Decision Support, University of Maryland, College Park, MD, Oct. 2018

- George Mason University, Fairfax, VA, Mar. 2018

- PCL Construction, Edmonton, Canada, Feb. 2018

- Southeast University, Nanjing, China, Dec. 2015

Presentations at Conferences and Workshops

- ASCE International Conference on Computing in Civil Engineering 2019, Atlanta, GA, Jun. 2019

- Winter Simulation Conference 2018, Gothenburg, Sweden, Dec. 2018

- ASCE Construction Research Congress 2018, New Orleans, LA, US, Apr. 2018

- NSERC CRD Reporting 2017, Edmonton, Canada, Dec. 2017
- Lean & Computing in Construction Congress (LC3) 2017, Heraklion, Greece, Jul. 2017
- Winter Simulation Conference 2016, Arlington, VA, US, Dec. 2016

SERVICE

Editorial Board

- Assistant Specialty Editor, ASCE Journal of Construction Engineering and Management

Journal Reviewer

- Natural Hazards, 2020-Present
- Applied Network Science, 2020-Present
- Complexity, 2020-Present
- IEEE Transactions on Knowledge and Data Engineering, 2019-Present
- Reliability Engineering and System Safety, 2019-Present
- ASCE Journal of Management in Engineering, 2018-Present
- ASCE Journal of Computing in Civil Engineering, 2016-Present
- ASCE Journal of Construction Engineering and Management, 2016-Present
- Automation in Construction, 2016-Present

Conference Reviewer

- Hawaii International Conference on System Sciences 2020
- ASCE International Conference on Computing in Civil Engineering 2019
- ASCE Construction Research Congress 2018, 2020
- Winter Simulation Conference 2015, 2016, 2019, 2020

Technical Committee Duties

- Session Chair, Winter Simulation Conference 2020
- Track Program Committee/Session Chair, Winter Simulation Conference 2019
- Track Chair, ASCE International Conference on Computing in Civil Engineering 2019
- Best Paper Committee, ASCE International Conference on Computing in Civil Engineering 2019
- Program Committee, ASCE Construction Research Congress 2018

Memberships in Professional Societies

- Institute for Operations Research and the Management Sciences (INFORMS), 2019-Present
- Associate Member, American Society of Civil Engineers (ASCE), 2018-Present
- Executive Committee Member, International Association of Chinese Construction Scholars (IACCS), 2016-Present

Internal Committee

- Hiring Committee, CEIE Fiscal and Administrative Specialist, 2020
- Balfour Beatty Fellowship, 2019

AWARDS

- Outstanding Reviewer Award, Winter Simulation Conference, 2019
- Outstanding Reviewer Award, ASCE Journal of Construction Engineering and Management, 2018
- Outstanding Reviewer Award, ASCE Journal of Computing in Civil Engineering, 2017
- Canada Graduate Travel Award, AXA Pacific Insurance Company, 2017
- FGSR Graduate Student Travel Award, University of Alberta, 2017
- GSA Academic Travel Award, University of Alberta, 2016/2017
- Ernie Tromposch Graduate Scholarship in CEM, University of Alberta & Construction Owners Association of Alberta (COAA), 2016
- Excellent Employee Award of COFCO Land, 2013
- Excellent Undergraduate Student of China Civil Engineering Society, 2010
- Jeme Tien Yow Scholarship for excellent civil engineering student nationwide, 2010
- Silk Roads Exchange Program, ParisTech, Paris, France, 2010
- Chixia Development-Jin Baozhen Scholarship, 2009
- Excellent Student Leader of Southeast University, 2009
- CASC Scholarship for academic achievement, 2008
- The 3rd prize in Interdisciplinary Contest in Modeling (ICM), 2008
- The 2nd prize in China Undergraduate Mathematical Contest in Modeling, 2008