Wenying Ji

Assistant Professor
Sid & Reva Dewberry Department of Civil, Environmental & Infrastructure Engineering
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George Mason University
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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-Aug. 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. **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.
2. Wu, L., **Ji, W.**, AbouRizk, S. (2019). "Bayesian inference with Markov Chain Monte Carlo-based numerical approach for input model updating." *Journal of Computing in Civil Engineering* [accepted].
3. 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.

4. **Ji, W.**, AbouRizk, S., Zaïane, O., and <u>Li, Y.</u> (2018). "Complexity analysis approach for prefabricated construction products using uncertain data clustering." *Journal of Construction Engineering and Management*, 144(8): 04018063.

5. **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.

6. 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*, 1-37.

7. **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.

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

9. 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.

10. Zhang, L., Wu, X., **Ji, W.**, and AbouRizk, S. (2016). "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 *(<u>underlined student co-authors</u>)*

1. <u>Li, Y.</u>, **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. [Accepted]

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

3. **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.

4. **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.

5. 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: Decision Support System for Enhanced Infrastructure System Serviceability Following Natural Disasters: A Social Media Mining Approach
   Sponsor: Jeffress Trust Awards Program in Interdisciplinary Research, US
   Role: **Project Investigator**
   Period of Performance: 2019-2020
   Total Amount: $100,000 USD
2. Title: Automated and Integrated Decision Support System for Tunnel Construction
   Sponsor: NSERC Collaborative Research and Development Grant, Canada
   Role: **Participated in Writing**
   Period of Performance: 2019-2023
   Total Amount: $240,000 CAD
3. Title: Resilient, Event-Driven Construction Management Systems
   Sponsor: NSERC Discovery Grant, Canada
   Role: **Participated in Writing**
   Period of Performance: 2018-2022
   Total Amount: $760,500 CAD
4. Title: Simulation-Based Analytics for Industrial Construction
   Sponsor: NSERC Collaborative Research and Development Grant, Canada
   Role: **Graduate Research Assistant**
   Period of Performance: 2017-2021
   Total Amount: $2,700,000 CAD

TEACHING RECORDS

New Courses Developed at George Mason University
- CEIE 679 Construction Simulation, Graduate Level, 2019-Present
- CEIE 499/679 Construction Computer Application and Informatics, Undergraduate and Graduate Level, 2018-Present
- CEIE 796 Data Analytics in Construction, Graduate Level, 2018-Present

Directed Research
- Spring 2019, Yudi Chen, CEIE 998 Doctoral Dissertation Proposal, 3 Units

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. Chang Liu*, Civil Engineering, UA, 2017-Present
4. Lingzi Wu*, Civil Engineering, UA, 2017-Present

Master Students
1. Na Wei, Software Engineering, GMU, 2019-Present

Undergraduate Students
1. Yitong Li, Dean's Research Program, Civil Engineering, UA, 2017-2018

Thesis Committee Membership
1. Pouya Gholizadeh, PhD, Civil and Environmental Engineering, GMU, 2018
   Advisor: Behzad Esmaeili

SELECTED PRESENTATIONS

Invited Talks at Universities and Companies
- Southeast University, Nanjing, China, Jul. 2019
- New York University, New York, NY, Mar. 2019
- 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

Presentation 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

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

Technical Committee Duties
- Track Program Committee, Winter Simulation Conference 2019
- Track Chair, 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
- Balfour Betty Fellowship 2019

AWARDS

- 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