ERIC JING DU, PH.D.

Professor, CCE, MAE, ISE
Herbert Wertheim College of Engineering, University of Florida
Weil Hall 460F, 1949 Stadium Rd., Gainesville, FL 32611
Informatics, Cobots and Intelligent Construction (ICIC) Lab: https://faculty.eng.ufl.edu/ericdu/
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EDUCATION

Ph.D. in Construction Engineering, MICHIGAN STATE UNIVERSITY, East Lansing, MI, 2012

- Dissertation: *Investigation of Interpersonal Cooperation in Construction Project Teams: An Agent-Based Modeling Approach*

Master of Science, Business Administration, TIANJIN UNIVERSITY, Tianjin, China, 2008

- Thesis: *A Study of Employee Performance Evaluation System*

Bachelor of Arts, Business Administration, TIANJIN UNIVERSITY, Tianjin, China, 2004

- Thesis: *A Mathematical Model of Enterprise Resource Management*

Bachelor of Engineering, Civil Engineering, TIANJIN UNIVERSITY, Tianjin, China, 2004

- Thesis: *Automated FEA-based Structural Design using Visual Basic and ANSYS (APDL)*

ACADEMIC EXPERIENCE

Professor, UNIVERSITY OF FLORIDA, Gainesville, FL   2023-

- Department of Civil and Coastal Engineering
- Department of Mechanical and Aerospace Engineering (Affiliate and Graduate Faculty)
- Department of Industrial and System Engineering (Affiliate)

Associate Professor, UNIVERSITY OF FLORIDA, Gainesville, FL   2019-2023

- Department of Civil and Coastal Engineering
- Department of Mechanical and Aerospace Engineering (Affiliate and Graduate Faculty)
- Department of Industrial and System Engineering (Affiliate)

Assistant Professor, TEXAS A&M UNIVERSITY, College Station, TX   2015-2019

- Department of Construction Science

Assistant Professor, UNIVERSITY OF TEXAS AT SAN ANTONIO, San Antonio, TX   2013-2015

- Department of Construction Science

INDUSTRY EXPERIENCE

Kiewit Faculty Scholar

Kiewit Offshore Services, INC., Corpus Christi, TX   2017

- Faculty intern at Kiewit Offshore Services in the summer.

Consultant

ZACHRY HOLDINGS, INC., San Antonio, TX   2014-2017

- Providing consulting service in risk management.

Senior Production and Cost Analyst

ZACHRY HOLDINGS, INC., San Antonio, TX   2011-2013

- Oversaw productivity tracking systems (CMIS and Qtrax) for monthly projection reviews.

Project Manager

TIANJIN FREE TRADE ZONE ADMIN COMMITTEE, China   2007-2008

- Spearheaded all efforts of public agencies, investors, lawyers, and accounting firms for large infrastructure and commercial projects including Tianjin Free Trade Zone (TJFTZ) and Tianjin.

PUBLICATIONS

Peer-Reviewed Journal Papers

** Denotes students under my supervision; * Denotes Corresponding Author.

[1]   Xia, P.**, Zhou, T.**, Ye, Y.**, and **Du, J.*** (2024). "Human Autonomy Teaming for ROV Shared Control". *ASCE Journal of Computing in Civil Engineering.* 38 (4), 04024015 (Impact Factor: 4.64)

[2]   You, H.**, Xu, F.**, Ye, Y.**, Xia, P.**, and **Du, J.*** (2023). "Adaptive LiDAR scanning based on RGB information". *ELSEVIER Automation in Construction*. (160) p105337. (Impact Factor: 10.517)

[3]   Xu, F.**, Nguyen, T.**, and **Du, J.*** (2023). "Augmented Reality for Maintenance Tasks with ChatGPT for Automated Text-to-Action". *ASCE Journal of Construction Engineering and Management*. 150 (4), 04024015. (Impact Factor: 5.213)

[4]   **Du, J***, Vann, W.**, Zhou, T.**, Ye, Y.**, Zhu, Q.** (2024) "Sensory Manipulation as A Countermeasure to Robot Teleoperation Delays: System And Evidence." *Nature Scientific Reports* 14 (1), 4333. (Impact Factor: 4.9)

[5]   Wu, J.**, Ye, Y.**, **Du, J*.** (2024) "Autonomous Drones in Urban Navigation: Autoencoder Learning Fusion for Aerodynamics". *ASCE Journal of Construction Engineering and Management*. Forthcoming. (Impact Factor: 5.213)

[6] Wu, J.**, Ye, Y.**, **Du, J*.** (2024) "Multi-Objective Reinforcement Learning for Autonomous Drone Navigation in Urban Areas With Wind Zones." ***ELSEVIER Automation in Construction*** 158 (2024): 105253. (Impact Factor: 10.517)

[7] Xu, F.**, Zhou, T.**, You, H.**, **Du, J.*** (2024). "Improving Indoor Wayfinding with AR-Enabled Egocentric Cues: A Comparative Study." ***ELSEVIER Advanced Engineering Informatics***, *59*, 102265. (Impact Factor: 7.862)

[8] Zhou, T.**, Xia, P.**, Ye, Y.**, and **Du, J.*** (2023). "Embodied Robot Teleoperation Based on High-Fidelity Visual-Haptic Simulator: Pipe-Fitting Example". ***ASCE Journal of Construction Engineering and Management***. 149 (12), 04023044. (Impact Factor: 5.213)

[9] Xia, P.**, You, H.**, and **Du, J.*** (2023). "Visual-Haptic Feedback for ROV Subsea Navigation Control". ***ELSEVIER Automation in Construction***. (154) p104987. (Impact Factor: 10.517)

[10] Xia, P.**, You, H.**, Ye, Y.**, and **Du, J.*** (2023). "ROV Teleoperation via Human Body Motion Mapping: Design and Experiment". ***ELSEVIER Computers in Industry***. (150) p103959. (Impact Factor: 11.245)

[11] You, H.**, Xu, F.**, and **Du, J.*** (2023). "Improved Boundary Identification of Stacked Objects with Sparse LiDAR Augmentation Scanning." **ASCE** *Journal of Construction Engineering and Management*, *149*(11), 04023104. (Impact Factor: 5.213)

[12] Zhou, T.**, Xia, P.**, Zhu, Q.**, and **Du, J.*** (2023). "Cognition-Driven Navigation Assistive System for Emergency Indoor Wayfinding (CogDNA): Proof of Concept and Evidence". ***ELSEVIER Safety Science***. 162, p.106100. (Impact Factor: 6.392)

[13] Upasani, S., Srinivasan, D.*, Zhu, Q.**, **Du, J.** and Leonessa, A.(2023). "Eye-Tracking in Physical Human–Robot Interaction: Mental Workload and Performance Prediction." ***Human Factors***, p.00187208231204704.

[14] Ye, Y**, You, H.**, and **Du, J.*** (2023). "Improved Trust in Human-Robot Collaboration with ChatGPT". ***IEEE Access***. (2023) 11. (Impact Factor: 3.557)

[15] You, H.**, Ye, Y**, Zhou, T.**, Zhu, Q.** and **Du, J.*** (2023). "Robot-Enabled Construction Assembly with Automated Sequence Planning Based on ChatGPT: RoboGPT". ***Buildings***. 13(7), 1772. (Impact Factor: 3.557)

[16] Hu, D., Li, S.*, **Du, J.**, and Cai, J. (2023). "Automating Building Damage Reconnaissance to Optimize Drone Mission Planning for Disaster Response." ***ASCE Journal of Computing in Civil Engineering.*** 37(3): 04023006. (Impact Factor: 4.64)

[17] Zhou, T.**, Zhu, Q.**, Ye, Y.**, and **Du, J.*** (2023). "Humanlike Inverse Kinematics for Improved Spatial Awareness in Construction Robot Teleoperation: Design and Experiment". ***ASCE Journal of Construction Engineering and Management***. 149 (7), 04023044. (Impact Factor: 5.213)

[18] Ye, Y.**, Xia, P.**, Zhou, T.**, and **Du, J.*** (2023). "Spatial Memory of BIM and Virtual Reality: A Mental Mapping Study". *ASCE Journal of Construction Engineering and Management.* 149 (7), 04023042. (Impact Factor: 5.213)

[19] Ye. Y.**, Zhou, T.**, and **Du, J.*** (2023). "Robot-Assisted Immersive Kinematic Experience Transfer for Welding Training". *ASCE Journal of Computing in Civil Engineering*. 37 (2) p04023002. (Impact Factor: 4.64)

[20] Xia, P.**, Xu, F.**, Song, Z., Li, S., and **Du, J.*** (2023). "Sensory Augmentation for Subsea Robot Teleoperation". *ELSEVIER Computers in Industry*. (145) p103836. (Impact Factor: 11.245)

[21] Chen, J., Li, N.*, Shi, Y., **Du, J.** (2023). "Cross-Cultural Assessment of the Effect of Spatial Information on Firefighters' Wayfinding Performance: A Virtual Reality-based Study". *ELSEVIER International Journal of Disaster Risk Reduction*. (84) p103486. (Impact Factor: 4.842)

[22] Vann, W**, Zhou, T.**, Zhu, Q.**, **Du, J.*** (2023). "Enabling Automated Facility Maintenance from Articulated Robot Collision-Free Designs". *ELSEVIER Advanced Engineering Informatics*. (55) p101820. (Impact Factor: 7.862)

[23] Wang, X., Han, W., **Du, J.**, Dai, F., and Zhu, Z.* (2023). "An Eye Gaze-Aided Virtual Tape Measure for Smart Construction". *Canadian Journal of Civil Engineering*. (2023) May.

[24] Zhu, Q.**, Zhou, T.**, **Du, J.*** (2022). "Haptics-Based Force Balance Controller for Tower Crane Payload Sway Controls". *ELSEVIER Automation in Construction*. (144) p104597. (Impact Factor: 10.517)

[25] Hu, D., Chen, L., **Du, J.**, Cai, J., and Li, S. (2022). "See through Disaster Rubble in 3D with Ground Penetrating Radar and Interactive Augmented Reality for Urban Search and Rescue". *ASCE Journal of Computing in Civil Engineering.* 36 (5). P.04022021 (Impact Factor: 4.64).

[26] Ye, Y.**, Shi, Y.**, Srinivasan, D., **Du, J.*** (2022). "Sensation Transfer for Immersive Exoskeleton Motor Training". *ELSEVIER Automation in Construction*. (141) 104411. (Impact Factor: 10.517)

[27] Xu, F.**, Xia, P.**, **Du, J.*** (2022). "Robotic Cross-Platform Sensor Fusion and Augmented Visualization for Large Indoor Space Reality Capture" *ASCE Journal of Computing in Civil Engineering* 36 (6), 04022036. (Impact Factor: 4.64).

[28] Xia, X., Zhou, T.**, **Du, J.**, Li, N. (2022). "Human Motion Prediction for Intelligent Construction: A Review". *ELSEVIER Automation in Construction* (142) 104497. (Impact Factor: 10.517)

[29] Ye, Y.**, Shi, Y.**, Xia, P.**, Kang, J., Mehta, R., **Du, J.*** (2022). *"Cognitive Characteristics in Firefighter Wayfinding Tasks: An Eye-Tracking Analysis". ELSEVIER Advanced Engineering Informatics.* 53 (2022): 101668. (Impact Factor: 5.603).

[30] Li, N., **Du, J.**, Gonzales, V., Chen, J., (2022). "Methodology for Extended Reality-Enabled Experimental Research in Construction Engineering and Management". *ASCE Journal of Construction Engineering and Management*. 148 (10). 04222106 (Impact Factor: 4.64).

[31] Zhou, T.**, Wang, Y.**, Zhu, Q.**, **Du, J.*** (2022). "Human Hand Motion Prediction based on Feature Grouping and Deep Learning: Pipe Skid Maintenance Example". *ELSEVIER Automation in Construction*. (138) 104232 (Impact Factor: 10.157)

[32] Xia, P.**, Xu, F.**, Zhou, T.**, **Du, J.*** (2022). "Human Robot Performance Benchmarking in Emergency Structural Inspection". *ASCE Journal of Construction Engineering and Management*. 148.8 (2022): 04022070 (Impact Factor: 4.443)

[33] Mehta, R, Moats, J., Gabbard, J., Srinivasan, D., **Du, J.**, Leonessa, A., Burks, G., Stephenson, A., and Fernandes, R. (2022). "Human‐Centered Intelligent Training for Emergency Responders." *AI Magazine.* 43, no. 1 (2022): 83-92.

[34] Zhu, Q.**, Zhou, T.**, Du, J.* (2022). "Collaborative Robot Planning for Active Collision Avoidance in Modular Construction: Pipe Skids Example". *ASCE Journal of Construction Engineering and Management*. 148 (10). (Impact Factor: 4.443)

[35] Shi, Y.**, Johnson, C., Xia, P.**, Kang, J., Tyagi, O., Mehta, R., **Du, J.*** (2022). "Neural Basis Analysis of Firefighters' Wayfinding Performance via Functional Near- Infrared Spectroscopy (fNIRS)". *ASCE Journal of Computing in Civil Engineering.* 36 (4), 04022016. (Impact Factor: 4.64).

[36] Zhou, T.**, Zhu, Q.**, Shi, Y.**, **Du, J.*** (2022). "Construction Robot Teleoperation Safeguard based on Real-Time Human Hand Motion Prediction". *ASCE Journal of Construction Engineering and Management*. 148 (7), 04022040. (Impact Factor: 4.443)

[37] Wang, Y., Zhong, L., **Du, J**., Gao, J. and Wang, Q., (2022). "Identifying the shifting sources to predict the dynamics of COVID-19 in the US." *Chaos: An Interdisciplinary Journal of Nonlinear Science*, 32(3), p.033104. (Impact Factor: 3.642)

[38] Tyagi, O., Hopko, S., Kang, J., Shi, Y., **Du, J.** and Mehta, R.K., (2021). "Modeling Brain Dynamics During Virtual Reality-Based Emergency Response Learning Under Stress". *Human Factors*. p.00187208211054894 (Impact Factor: 2.888).

[39] Zhu, Q.**, Zhou, T.**, **Du, J.*** (2021). "Upper-Body Haptic System for Snake Robot Teleoperation in Pipelines." *ELSEVIER Advanced Engineering Informatics*. 51 (2022): 101532. (Impact Factor: 5.603)

[40] Deng, H., **Du, J.**, Gao, J., Wang, Q. (2021). "Network percolation reveals adaptive bridges of the mobility network response to COVID-19." *PLoS ONE* 16(11): e0258868. https://doi.org/10.1371/journal.pone.0258868

[41] Ke, J., **Du, J.**, Luo, X. (2021). "The Effect of Noise Content and Level on Cognitive Performance Measured by Electroencephalography (EEG)". *ELSEVIER Automation in Construction*. (130) 103836 (ISSN: 0926-5805, Impact Factor: 7.7)

[42] Zhu, Q.**, Shi, Y.**, **Du, J.*** (2021). "Wayfinding Information Cognitive Load Classification Based on Functional Near-Infrared Spectroscopy". *ASCE Journal of Computing in Civil Engineering* (35) 5. (Impact Factor: 4.64).

[43] Abujelala, M., Karthikeyan, R., Tyagi, O., **Du, J.**, Mehta, R. (2021). "Brain Activity-Based Metrics for Assessing Learning States in VR under Stress among Firefighters: An Explorative Machine Learning Approach in Neuroergonomics". **Brain Sciences** (11)7, 885

[44] Zhu, Q.**, Shi, Y.**, **Du, J.***, Wei, P.** (2021). "Neurobehavioral Assessment of Force Feedback Simulation in Industrial Robotic Teleoperation". **ELSEVIER Automation in Construction**. (126) 103674 (Impact Factor: 7.700)

[45] Shi, Y.**, Kang, J., Xia, P.**, Tyagi, O., Mehta, R., and **Du, J.*** (2021). "Spatial Knowledge and Firefighters' Wayfinding Performance: A Virtual Reality Search and Rescue Experiment". **ELSEVIER Safety Science** (Impact Factor: 4.877)

[46] Zhou, T.**, Zhu, Q.**, **Du, J.*** (2020). "Intuitive Robot Teleoperation for Civil Engineering Operations with Virtual Reality and Deep Learning Scene Reconstruction". **ELSEVIER Advanced Engineering Informatics**. (46) 101170. (Impact Factor: 5.603)

[47] Shi, Y.**, **Du, J.***, Zhu, Q.** (2020). "The Impacts of Engineering Information Format on Task Performance: Gaze Scanning Pattern Analysis". **ELSEVIER Advanced Engineering Informatics**. (46) 101167. (Impact Factor: 5.603)

[48] Shi, Y.**, Zhu, Y., Mehta, R. and **Du, J.*** (2020). "A Neurophysiological Approach to Assess Training Outcome under Stress: A Virtual Reality Experiment of Industrial Shutdown Maintenance using Functional Near-Infrared Spectroscopy (fNIRS)". **ELSEVIER Advanced Engineering Informatics**. (46) 101153. (Impact Factor: 5.603)

[49] Shi, Y.**, and **Du, J.***, Worthy, D. (2020). "The Impact of Engineering Information Formats on Learning and Execution of Construction Operations: A Virtual Reality Pipe Maintenance Experiment". **ELSEVIER Automation in Construction**. (119) 1033637 (Impact Factor: 7.700)

[50] **Du, J.***, Zhao, D., Issa, R., and Singh, N.** (2020). "BIM for Improved Project Communication Networks: Empirical Evidence from Email Logs". **ASCE Journal of Computing in Civil Engineering** (34) 5. (Impact Factor: 4.64).

[51] Mo, Y., Zhao, D.*, **Du, J.**, Syal, M., Aziz, A., and Li, H. (2020). "Automated Staff Assignment for Building Maintenance using Natural Language Processing". **ELSEVIER Automation in Construction**. 113 (2020): 103150. (Impact Factor: 7.700)

[52] Shi, Y.**, **Du, J.***, and Ragan, E. (2020). "Review Visual Attention and Spatial Memory in Building Inspection: Toward a Cognition-driven Information System". **ELSEVIER Advanced Engineering Informatics**. (44) 101061. (Impact Factor: 5.603)

[53] **Du, J.***, Zhu, Q.**, Shi, Y.**, Wang, Q., Lin, Y., and Zhao D.** (2020). "Cognition-Digital Twins (Cog-DT) for Personalized Information Systems of Smart Cities – A Proof of Concept". **ASCE Journal of Management in Engineering**. 36 (2), 04019052. (Impact Factor: 7.184)

[54] Ligmann-Zielinska, A., Siebers, P., Maglioccia, N., Parker, D., Grimm, V., **Du, J.**, Cenek, M., Radchuk, V., Arbab, N., Li, S., Berger, U., Paudel, R., Robinson, D., Jankowski, P., An, L., Ye, X. (2019). "'One size does not fit all': a roadmap of purpose-driven mixed-method pathways for sensitivity analysis of agent-based models". **Journal of Artificial Societies and Social Simulation (JASSS)**. 23 (1). (Impact Factor: 2.222)

[55]   Shi, Y.**, **Du, J.***, Ahn, C., Ragan, E. (2019). "Impact Assessment of Reinforced Learning Methods on Construction Workers' Fall Risk Behavior using Virtual Reality". *ELSEVIER Automation in Construction* 104 (2019) 197-214. (Impact Factor: 7.700)

[56]   Yiu, Y.**, **Du, J.***, and Mahapatra, R. (2019). "Evolutionary Heuristic A* Search: Pathfinding Algorithm with Self-Designed and Optimized Heuristic Function". *International Journal of Semantic Computing*, 13(01), 5-23.

[57]   Basavaraju, A., **Du, J.**, Zhou, F., and Ji, J*. (2019). "A Machine Learning Approach to Road Surface Anomaly Assessment using Smartphone Sensors". *IEEE Sensors*. vol. 20, no. 5, pp. 2635-2647. (Impact Factor: 3.301)

[58]   Zhang, J.**, **Du, J.***, Yiu, J. and Ligmann-Zielinska, A. (2019). "Improved Global Sensitivity Analysis for Critical Factor Analysis with Intercorrelated Inputs: Power Plant Cost Example". *ASCE Journal of Computing in Civil Engineering*. 33(4). (Impact Factor: 4.64).

[59]   **Du, J.***, Zhao, D., Zhang, O. (2018). "Impacts of Human Communication Networks on Collective Optimism Bias: A Human Subject Experiment". *Construction Management and Economics*, 2018 (10), 1-17. (Impact Factor: 3.80)

[60]   **Du. J.***, Wang, Q., and Shi, Q. (2018). "Experience Based Decision under Imperfect Information – Information Continuum and Aggressive Cost Estimating in Capital Projects". *Engineering, Construction and Architectural Management* (Vol. 26 No. 6, pp. 1151-1170). (Impact Factor: 3.18)

[61]   **Du. J.***, Zou, Z.**, Shi, Y.**, and Zhao, D. (2018). "Zero Latency: Real-time Synchronization of BIM data in Virtual Reality for Collaborative Decision-Making". *ELSEVIER Automation in Construction*, 2018 (85), 51-64. (Impact Factor: 7.700). **List of Most Cited Papers**.

[62]   Akhavan, A., Phillips, N., **Du, J.**, Chen, J., Sadeghinasr, B., and Wang, Q.*(2018). "Accessibility Inequality in Houston." *IEEE Sensors Letters*. 2018 Nov 22. (Impact Factor: 3.301)

[63]   Jiang, Y., Zhao, D.*, Sanderford, A., and **Du, J.** (2018). "Effects of Bank Lending on Urban Housing Prices for Sustainable Development: A Panel Analysis of Chinese Cities". *Sustainability*, 10 (3), 642. (Impact Factor: 3.251)

[64]   Rincon, J.**, Fernandez-Solis, J., Lavy, S., **Du, J.** (2018). "Stakeholder 'Autonomous Agent' Affecting Last Planner System Performance in Texas". *ASCE Journal of Management in Engineering*. 35.1 (2018): 04018050. (ISSN: 0742-597X, Impact Factor: 7.184)

[65]   **Du. J.***, Shi, Y.**, Zou, Z.**, and Zhao, D. (2017). "A Cloud-based Multiuser Virtual Reality Headset System for Project Communication of Remote Members". *ASCE Journal of Construction Engineering and Management*, 144 (2). (Impact Factor: 4.443)

[66]   Zhao, D.*, McCoy, A.P., **Du, J.**, Agee, P. and Lu, Y. (2017). "Interaction Effects of Building Technology and Resident Behavior on Energy Consumption in Residential Buildings". *ELSEVIER Energy and Buildings*, 134, 223-233. (Impact Factor: 5.879)

[67]   Olabisi, L.S.*, Saweda L.T., Rivers, L., Ligmann-Zielinska, A., **Du, J.**, Denny, R., Marquart-Pyatt, S., and Sidibé., A. (2017) "Using Participatory Modeling Processes to Identify Sources of Climate Risk in West Africa." *Environment Systems and Decisions* (2017): 1-10. (Impact Factor: 2.41)

[68] Denny, R. C., Marquart-Pyatt, S. T.*, Ligmann-Zielinska, A., Olabisi, L. S., Rivers, L., **Du, J.**, and Liverpool-Tasie, L. S. O. (2017). "Food Security in Africa: a Cross-Scale, Empirical Investigation using Structural Equation Modeling". *Environment Systems and Decisions* (2017): 1-17. (Impact Factor: 2.41)

[69] Whitley, C. T., Rivers III, L.*, Mattes, S., Marquart-Pyatt, S. T., Ligmann-Zielinska, A., Olabisi, L. S., and **Du, J.** (2017). "Climate-Induced Migration: Using Mental Models to Explore Aggregate and Individual Decision-Making". *Journal of Risk Research*, 1-17. (Impact Factor: 1.931)

[70] He, S.**, **Du. J.***, and Huang, J. (2017). "A Singular Value Decomposition Feature Extraction (SVDFE) for Cost Prediction". *ASCE Journal of Computing in Civil Engineering*, 31.5 (2017): 04017043. (Impact Factor: 4.64)

[71] Liu, R.*, **Du, J.**, Issa, R., and Giel, B. (2016). "BIM Cloud Score: Building Information Model and Modeling Performance Benchmarking". *ASCE Journal of Construction Engineering and Management*, 04016109. (Impact Factor: 4.443)

[72] **Du, J.***, and El-Gafy, M. (2016). "A Cloud Based Shareable Library of Cooperative Behaviors in Construction Project Teams for Agent Based Modeling". *ELSEVIER Automation in Construction*, (2016) 62. 89-100. (Impact Factor: 7.700)

[73] Shi, Y.**, **Du, J.***, Lavy, S., Zhao, D. (2016). "A Multiuser Shared Virtual Environment for Facility Management". *Procedia Engineering*, (145), 120-127. (Impact Factor: 1.369)

[74] Zhao, D.*, McCoy, A., **Du, J.** (2016). "An Empirical Study on the Energy Consumption in Residential Buildings after Adopting Green Building Standards". *Procedia Engineering*, (145), 766-773. (Impact Factor: 1.369)

[75] **Du, J.***, El-Gafy, M., and Zhao, D. (2015). "Optimization of Change Order Administrative Process by Object-Oriented Discrete Event Simulation: A Case Study". *ASCE Journal of Construction Engineering and Management*, (2015): 05015018. (Impact Factor: 4.443)

[76] Zhao, D.*, McCoy, A., Kleiner, B., **Du, J.**, and Smith-Jackson, T. (2015). "Decision-Making Chains in Electrical Safety for Construction Workers". *ASCE Journal of Construction Engineering and Management*, 142.1 (2015): 04015055. (Impact Factor: 4.443)

[77] **Du, J.***, Kim, B., and Zhao, D. (2015). "Cost Performance as a Stochastic Process: EAC projection by Markov Chain Simulation". *ASCE Journal of Construction Engineering and Management*, (2015): 04016009. (Impact Factor: 4.443)

[78] **Du, J.*** and Arika Ligmann-Zielinska (2015). "The Volatility of Data Space: Topology Oriented Sensitivity Analysis". *PLOS ONE*. 10.9 (2015): e0137591. (Impact Factor: 3.24)

[79] **Du, J.*** and El-Gafy, M. (2015). "Organizational Learning Enabled by Human Computation: Example of Conceptual Estimating". *Journal of Information Technology in Construction (ITcon)*, Vol. 20, pg. 275-294. (Impact Factor: 1.94)

[80] **Du, J.*,** Liu, R., and Issa, R. (2014). "BIM Cloud Score: Benchmarking BIM Performance". *ASCE Journal of Construction Engineering and Management*, 140(11), 04014054. **2015 Journal Best Paper Award.** (Impact Factor: 4.443)

[81] **Du, J.***, and El-Gafy, M. (2014). "Using Agent Based Modeling to Investigate Goal Incongruence Issues in Proposal Development - Case Study of an EPC Project". *ASCE Journal of Management in Engineering*. 10.1061, 05014025. (Impact Factor: 7.184)

[82] Liu, R.*, **Du, J.,** and Issa, R. (2014). "Cloud-based Deep Immersive Game for Human Egress Data Collection: A Framework". *Journal of Information Technology in Construction (ITcon)*. Vol 19, 336-349. (Impact Factor: 1.94)

[83] **Du, J.*** (2014). "The 'Weight' of Models, and Complexity". *Complexity*. doi: 10.1002/cplx.21612. (Impact Factor: 4.621)

[84] **Du, J.***, and Bormann, J. (2014). "Improved Similarity Measure in Case Based Reasoning with Global Sensitivity Analysis: An Example of Construction Quantity Estimating". *ASCE Journal of Computing in Civil Engineering*, 28(6), 04014020. (Impact Factor: 4.64)

[85] **Du, J.** and El-Gafy, M.*, (2012). "Virtual Organizational Imitation for Construction Enterprises (VOICE): An Agent Based Simulation Framework for Exploring Human and Organizational Implications in Construction Management". *ASCE Journal of Computing in Civil Engineering*, 26 (3), 282-297. (Impact Factor: 4.64)

[86] **Du, J.*** and Wang, Q., (2011). "Exploring Reciprocal Influence between Individual Shopping Travel and Urban Form: Agent-Based Modeling Approach". *ASCE Journal of Urban Planning and Development*. 137(4), 390-401. (Impact Factor: 2.285)

[87] **Du, J.** and El-Gafy, M.*, (2011). "Feasibility Analytical Mapping (FAM) for Bidding Decision: A Graphic Bidding Decision Making Model using Multidimensional Scaling and Discriminant Analysis". *ASC International Journal of Construction Education and Research*. 7 (3), 198-209. (Impact Factor: 1.32)

[88] **Du, J.*** and Zhao, L. M., (2008). "Theoretical and Empirical Research on Performance Graph". *Journal of Statistics and Decision*, 2008 No.1

[89] **Du, J.*** and Zhao, L. M., (2008). "The Limitations of Principal Component Analysis in Comprehensive Evaluation". *Journal of Inner Mongolia Agricultural University*, 2008 No.1

[90] **Du, J.***, (2007). "The Status Quo and Development Forecast of the Service Industry in Hebei: An International Comparative Research". *Journal of Modern Business*, 2007 No.18

[91] **Du, J.**.*, (2007). "A Graphic Model for Evaluating and Developing Employee Performance and Its Empirical Study". *International Journal of Business and Management*, 2007 No.5

[92] **Du, J.*** and Zhao, L. M., (2006). "A Vector Analysis Model of Employee Performance". *Journal of Dalian University of Technology*, Vol.27 No.4

Peer-Reviewed Conference Proceedings

** Denotes students under my supervision; * Denotes Corresponding Author.

[93] Ye, Y.**, Uthai, T.**, Xia, P.**, Zhou, T.**, Du, J.* (2024). "User Experience and Workload Evaluation in Robot-Assisted Virtual Reality Welding Training". *ASCE Construction Institute Construction Research Congress 2024.* Des Moines, IA

[94] You, H.**, Xu, F.**, Ye, Y.**, Du, J.** (2024). "Adaptive Scanning for Improved Stacked Object Detection with RGB and LiDAR". *ASCE Construction Institute Construction Research Congress 2024.* Des Moines, IA

[95] Wu, J.**, Ye, Y.**, Du, J.** (2024). "Multi-Objective Reinforcement Learning for Autonomous Drone Navigation in Urban Area". *ASCE Construction Institute Construction Research Congress 2024.* Des Moines, IA

[96] Xu, F.**, Zhou, T.**, Ye, Y.**, Du, J.** (2024). "Augmented Telepresence: Enhancing Robot Arm Control with Mixed Reality for Dexterous Manipulation". *ASCE Construction Institute Construction Research Congress 2024.* Des Moines, IA

[97] Construction Research Congress 2024, 727-738Ye, Y.**, Xu, F.**, & **Du, J.*** (2023). "Collaborative Virtual Training with Embodied Physics and Haptic Feedback: Construction Manual Material Handling as an Example". *The 2023 ASCE International Conference on Computing in Civil Engineering (i3CE)*. Corvallis, OR.

[98] Xia, P.**, You, H.**, Zhou, T.**, & **Du, J.*** (2023). "Human Body Motion and Hand Gesture Control for Remotely Operated Vehicle (ROV) Teleoperation". *The 2023 ASCE International Conference on Computing in Civil Engineering (i3CE)*. Corvallis, OR.

[99] Zhou, T.**, Xia, P.**, Ye, Y.**, & **Du, J.*** (2023). "Haptic Augmentation System for Construction Robot Teleoperation". *The 2023 ASCE International Conference on Computing in Civil Engineering (i3CE)*. Corvallis, OR.

[100] Ye, Y.**, Xu, F.**, & **Du, J.*** (2023). "Stacked Object Clustering with Adaptive Scanning and Density Centralized Voting". *The 2023 ASCE International Conference on Computing in Civil Engineering (i3CE)*. Corvallis, OR.

[101] Xu,F.**, Moats, J., Gabbard, J., & **Du, J.*** (2023). "Indoor Navigation Systems via Augmented Reality and Reality Capture: From Exocentric to Egocentric Spatial Perspective". *The 2023 ASCE International Conference on Computing in Civil Engineering (i3CE)*. Corvallis, OR.

[102] Uthai, T.**, You, H.**, & **Du, J.*** (2023). "Deep Learning–Based Automation of Road Surface Extraction from UAV-Derived Dense Point Clouds in Large Scale Environment". *The 2023 ASCE International Conference on Computing in Civil Engineering (i3CE)*. Corvallis, OR.

[103] Ergan, S.*, Dai, F., **Du, J.**, & Akhavian, R. (2023). "Launching Successful Datathons: Lessons Learned from Recent ASCE VIMS Datathons". *The 2023 ASCE International Conference on Computing in Civil Engineering (i3CE)*. Corvallis, OR.

[104] Ransing, V., Park, J.H., Ye, Y.**, Kim, S., **Du, J.** and Srinivasan, D.*, (2023). "How Does Perceived Usefulness of An Exoskeleton Change with Virtual Reality Training?" In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting* (p. 21695067231192544). Sage CA: Los Angeles, CA: SAGE Publications.

[105] Upasani, S., Zhu, Q.**, **Du, J.**, Leonessa, A., & Srinivasan, D.* (2022). "Sensitivity of Eye-Tracking Measures to Variations in Mental Workload while Learning to Operate a Physically

Coupled Robot". In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting* (Vol. 66, No. 1, pp. 526-527). Sage CA: Los Angeles, CA: SAGE Publications.

[106] Hayes, J., Dwivedi, S., Karthikeyan, R., Abujelala, M., Kang, J., Ye, Y.**, **Du, J.** and Mehta, R.K.* (2022). "Identifying Early Predictors of Learning in VR-based Drone Training". In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting* (Vol. 66, No. 1, pp. 1872-1876). Sage CA: Los Angeles, CA: SAGE Publications.

[107] Upasani, S., Zhu, Q.**, Herron, C., Kim, S., Du, J., Leonessa, A. and Srinivasan, D.* (2022). "Use of Eye-Tracking to Detect Variations in Mental Workload While Learning to Operate a Physically Coupled Robot". In *Proceedings of the Human Factors and Ergonomics Society Annual Meeting* (Vol. 66, No. 1, pp. 2254-2255). Sage CA: Los Angeles, CA: SAGE Publications.

[108] Ye, Y.**, Shi, Y.**, Lee, Y., Burks, G., Srinivasan, D., & **Du, J.*** (2022). "Exoskeleton Training through Haptic Sensation Transfer in Immersive Virtual Environment". *2022 ASCE Construction Research Congress (CRC 2022)*.

[109] Xia, P.**, Xu, F.**, Zhu, Q.**, Du, J.* (2022). "Human Robot Comparison in Rapid Structural Inspection". *2022 Construction Research Congress (CRC 2022)*.

[110] Zhou, T.**, Wang, Y.**, Du, J.* (2022). "Human Intent Prediction in Human-Robot Collaboration – A Pipe Maintenance Example". *2022 Construction Research Congress (CRC 2022)*.

[111] Shi, Y.**, Du, J.* (2022). "DesktopEye: A Desktop-Based Eye-Tracking System for 3D Model Review Analysis". *2022 Construction Research Congress (CRC 2022)*.

[112] Ye, Y.**, Shi, Y.**, & **Du, J.*** (2021). "Spatial Memory of Building Layout via 2D, 3D and Virtual Reality". *The 2021 ASCE International Conference on Computing in Civil Engineering (i3CE)*.

[113] Shi, Y.**, Zhu, Q.**, Du, J.* (2021). "Firefighter Wayfinding Performance in Search and Rescue: A Virtual Reality Experiment". *The 2021 ASCE International Conference on Computing in Civil Engineering (i3CE)*.

[114] Xu, F.**, Zhu, Q.**, Li, S., Song, Z. & **Du, J.*** (2021). "VR-based Haptic Simulator for Subsea Robot Teleoperations". *The 2021 ASCE International Conference on Computing in Civil Engineering (i3CE).*

[115] Xia, P.**, Xu, F.**, Du, J.* (2021). "Comparison of two SLAM Methods for Quadrupedal Robot-based Scanning". *The 2021 ASCE International Conference on Computing in Civil Engineering (i3CE)*.

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[117] Xu, F.**, Zhu,Q.**, **Du, J.*** (2021). "Haptic Simulator for Underwater Robot Controls – Underwater Welding Example". *The 2021ASCE International Conference on Computing in Civil Engineering (i3CE)*.

[118] Zhou, T.**, Zhu,Q.**, **Du, J.*** (2021). "Human-Like Bilateral Robotic Arm Controls for Remote Pipe Maintenance".*The 2021 ASCE International Conference on Computing in Civil Engineering (i3CE)*.

[119] Kang, J., Tyagi, O., Shi, Y., **Du, J**., & Mehta, R. K. (2021). "Learning Under Stress in Virtual Reality-based Emergency Scenarios". *In Proceedings of the Human Factors and Ergonomics Society Annual Meeting* (Vol. 64, No. 1, pp. 1702-1702). Sage CA: Los Angeles, CA: SAGE Publications.

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[121] Xu, F.**, Pu, G.**, Wei, P.**, Aribe, A.**, Boultinghouse, J.**, Dinh, N.**, & **Du, J.*** (2021). *Seeing Through Walls: Real-Time Digital Twin Modeling of Indoor Spaces. 2021 Winter Simulation Conference (WSC 2021).*

[122] Zhu, Q.**, **Du, J.*** (2020). "Neural Functional Analysis in Virtual Reality Simulation: Example of a Human-Robot Collaboration Tasks". *IEEE Winter Simulation Conference (WSC 2020)*.

[123] Zhu, Q.**, Wei, P.**, Shi, Y.**, **Du, J.*** (2020). "Cognitive Benefits of Human-Robot Collaboration in Complex Industrial Operations: A Virtual Reality Experiment". *2020 ASCE Construction Research Congress (CRC 2020)*.

[124] Shi, Y.**, **Du, J.***, Zhu, Q.**, Liu, X.** (2020). "The Impact of Engineering Information Formats on Workers' Cognitive Load in Working Memory Development". *2020 ASCE Construction Research Congress (CRC 2020)*.

[125] Shi, Y.**, Zheng, Y.**, **Du, J.***, Zhu, Q.**, Liu, X.** (2020). "The Impact of Engineering Information Complexity on Working Memory Development of Construction Workers". *2020 ASCE Construction Research Congress (CRC 2020).*

[126] Wang, Y., Wang, Q.*, **Du, J.**, and Lin, Y. (2020). "Comparison and Quantification of Cognitive Load generated by Sternberg Test using EEG Signals". *2020 ASCE Construction Research Congress (CRC 2020)*.

[127] Shi, Y.**, and **Du, J.*** (2019). "Simulation of Spatial Memory for Human Navigation Based on Visual Attention in Floorplan Review." *IEEE Winter Simulation Conference (WSC) 2019*.

[128] Shi, Y.**, **Du, J.***, Zhu, Q.**, and Liu, X.** (2019). "The Impact of Engineering Information Formats on Workers' Cognitive Load in Working Memory Development." *2020 Construction Research Congress (CRC).*

[129] Shi, Y.**, Zheng, Y.**, **Du, J.***, Zhu, Q.**, and Liu, X.** (2019). "The Impact of Engineering Information Complexity on Working Memory Development of Construction Workers." *2020 Construction Research Congress (CRC).*

[130] Zhu, Q.**, Wei, P.**, Shi, Y.**, and **Du, J.*** (2019) "Cognitive Benefits of Human-Robot Collaboration in Complex Industrial Operations: A Virtual Reality Experiment." *2020 Construction Research Congress (CRC).*

[131] Wang, Y., Wang, Q.*, **Du, J.**, and Lin, Y. (2019). "Comparison and Quantification of Cognitive Load generated by Sternberg Test using EEG Signals." ***2020 Construction Research Congress (CRC).***

[132] Shi, Y.,** **Du, J.**,* Sargunam, S.,** Ragan, E., and Zhu, Q.** (2019). "First Responders' Spatial Working Memory of Large-scale Buildings: Implications of Information Format". ***The 2019 ASCE International Conference on Computing in Civil Engineering (i3CE)***.

[133] Zhu, Q.**, **Du, J.**,* Shi, Y., Wang, Q., and Lin, Y. (2019). "Participatory and Evolutionary Fire Simulation via a Sensitive Control of Key Scenery Parameters". ***The 2019 ASCE International Conference on Computing in Civil Engineering (i3CE).***

[134] **Du, J.**,* Li, Z.**, and Wang, C. (2019). "Automated Road Damage Recognition based on the Sparse Coding Analysis of Vehicle Vibrations". ***2019 Conference of The Transportation Consortium of South-Central States (Tran-SET).***

[135] Yiu, Y.,** **Du, J.**,* and Mahapatra, R. (2018). "Evolutionary Heuristic A* Search: Heuristic Function Optimization via Genetic Algorithm". ***2018 IEEE International Conference on Artificial Intelligence and Knowledge Engineering (AIKE)***.

[136] Shi, Y.**, **Du, J.**.* Tang, P. (2018). "Characterizing the Role of Communications in Teams Carrying Out Building Inspection". ***2018 Construction Research Congress (CRC)***.

[137] Shi, Y.**, **Du. J.** *, Ragan, E., Choi, K. (2018). "Social Influence on Construction Safety Behaviors: A Multi-user Virtual Reality Experiment". ***2018 Construction Research Congress (CRC)***.

[138] Mo., Y., Zhao, D.*, and **Du, J.** (2018), "Data-driven Approach to Scenario Determination for VR-based Construction Safety Training". ***2018 Construction Research Congress (CRC)***.

[139] **Du. J.** *, Zou, Z.**, Shi, Y.**, and Zhao, D. (2017). "Simultaneous Data Exchange Between BIM and VR for Collaborative Decision-Making". ***2017 International Workshop on Computing in Civil Engineering (IWCCE2017).*** Seattle, WA.

[140] Mo, Y., Zhao, D.*, McCoy, A., **Du**, **J.**, and Agee, P. (2017). "Latent Relationship between Construction Cost and Energy Efficiency in Multifamily Green Buildings." ***2017 International Workshop on Computing in Civil Engineering (IWCCE2017).*** Seattle, WA.

[141] **Du, J.** *, Shi, Y.**, Mei, C., Quarles, J. and Yan, W. (2016). "Communication by Interaction: A Multiplayer VR Environment for Building Walkthrough". ***Proceedings of the 2016 ASCE Construction Research Congress (CRC2016).*** San Juan, Puerto Rico. May 31- June 2, 2016.

[142] Zhou, Y.**, **Du, J.** *, Shi, Q., Horlen, J. (2016). "Directive versus empowering leadership in temporary project teams: An Agent Based Modeling Approach". ***Proceedings of the 2016 ASCE Construction Research Congress (CRC2016).*** San Juan, Puerto Rico. May 31- June 2, 2016.

[143] Kalasapudi, V., Tang, P.*, **Du, J.** (2016). "Automatic Correlated Vibration Pattern Analysis for Rapid Remote Scour Assessment of Civil Infrastructures". ***Proceedings of the 2016 ASCE Construction Research Congress (CRC2016)***. San Juan, Puerto Rico. May 31- June 2, 2016.

[144] **Du, J. ***, and Ligmann-Zielinska, A. (2015). "The Evolution of Three Simulation Paradigms: System Dynamics, Discrete Event Simulation and Agent Based Modeling". *Poster of the 2015 Winter Simulation Conference*, Huntington Beach, CA

[145] Wang, Q.*, and **Du, J.** (2015). "A Scenario Simulation Study of Decentralization of Architecture, Engineering and Construction Companies". *Proceedings of the 2015 Winter Simulation Conference*. Huntington Beach, CA

[146] **Du, J. ***, and El-Gafy, M. (2015). "Implications of Micro-Management in Construction Projects – An Agent Based Modeling Approach". *ASCE 2015 International Workshop of Computing in Civil Engineering*. Austin, TX.

[147] **Du, J. ***, and Liu, R. (2015). "A Statistical Analysis of the Influences of Educational and Attitudinal Factors on the Academic Performance in a Construction Materials and Testing Class". *51st ASC Annual Conference*. College Station, TX.

[148] **Du, J. ***, and El-Gafy, M. (2014). "Modeling Organizational Behaviors of Construction Enterprises: An Agent Based Modeling Approach". *Proceedings of the 2014 IEEE Winter Simulation Conference (WSC 2014)*, 3341-3362.

[149] **Du, J. ***, Liu, R. and Hatipkarasulu, Y (2014). "Cloud Based Interactive Probabilistic Simulation for the AEC Industry". *ASCE ICCCBE 2014 conference*. Orlando, FL.

[150] **Du, J. ***, and Liu, R. (2014). "On the Edge of Human Computation: Interactive Parametric Estimating Paradigm". *ASCE ICCCBE 2014 conference*. Orlando, FL.

[151] Liu, R.*, **Du, J.,** and Issa, R. (2014). "Human Library for Emergency Evaluation in BIM-based Serious Game Environment". *ASCE ICCCBE 2014 conference*. Orlando, FL.

[152] Liu, R.*, **Du, J.,** and Issa, R. (2014). "Cloud-based Deep Immersive Game for Human Egress Data Collection". *2014 International Conference on Innovative Technologies in Construction (ITC 2014)*. Shenyang, China. **Best Paper Award.**

[153] **Du, J. ***, Hatipkarasulu, Y and Liu, R. (2014). "Interactive Probability Simulation for Construction Engineering and Management". *ASEE 2014 conference*. Indianapolis, IN.

[154] **Du, J. ***, and Gunhan, S. (2014). "Developing a Statistical Model for Building Settlement Prediction". *ASEE 2014 conference*. Indianapolis, IN.

[155] Gunhan, S.*, Judie, Y. and **Du, J.** (2014). "Covering Advanced Construction Management Topics with Diverse Student Body". *ASEE 2014 conference*. Indianapolis, IN.

[156] Becker, T. C., Jaselskis, E. J.*, El-Gafy, M. and **Du, J.**, (2012) "Industry Practices for Estimating, Controlling and Managing Key Indirect Construction Costs at the Project Level", *ASCE Construction Research Commission 2012 (CRC 2012)*. West Lafayette, Indiana.

[157] **Du, J. ***, El-Gafy, M. and Ghanem, A., (2012) "Adding Value to Change Order Management Process Using Simulation Approach: A Case Study." *48th Associated Schools of Construction (ASC) Annual International Conference Proceedings*. Birmingham, UK

[158] **Du, J.** and El-Gafy, M.*, (2010). "Towards an Agile Alignment: Exploring Implications of Social Aspects in Construction Organizations". *2010 Engineering Project Organizations Conference (EPOC)*. South Lake Tahoe, California.

[159] **Du, J.** and El-Gafy, M.*, (2010). "Examining Complex Adaptive Systems and Agent-Based Modeling for Improving Decision Makings in Construction Organizations". *27th International Conference of CIB W078*. Cairo, Egypt.

[160] **Du, J.** and El-Gafy, M.*, (2010). "Developing a Graph-based Bidding Decision Making Model using Information Visualization". *2nd International Conference on Construction in Developing Countries (ICCIDC-II)*. Cairo, Egypt.

[161] **Du, J.** and El-Gafy, M.*, (2010). "Analyzing construction performance using Agent Based Modeling*". Second International Conference on Construction in Developing Countries (ICCIDC-II)*. Cairo, Egypt.

[162] **Du, J.** and El-Gafy, M.*, (2010). "Virtual Organizational Imitation for Construction Enterprises (VOICE): Managing business complexity using Agent Based Modeling". *ASCE Construction Research Commission 2010 (CRC 2010)*. Banff, Canada.

Book Chapter

[163] Ligmann-Zielinska A.*, **Du, J.**, Rivers III L, Liverpool-Tasie S, Denny R C H, Wood A L, Sanga U,Marquart-Pyatt S, Breeze V, Paudel R, and Schmitt Olabisi L, (2017). "Principles of Participatory Ensemble Modeling to Study Complex Socioecological Systems in Innovations in Collaborative Modeling (Porter W F, Zhao J, Schmitt Olabisi L, McNall M, Eds.)" *Transformations in Higher Education: The Scholarship of Engagement Series*, Michigan State University Press.

Magazine Articles

[164] **Du, J.** (2015). "Facebook Timeline Tracks Century of Construction Technology". *Engineering News-Record (ENR)*. https://www.enr.com/articles/17215-facebook-timeline-tracks-century-of-construction-technology?v=preview

Other Publications

[165] **Du, J.** (2012). "Investigation of Interpersonal Cooperation in Construction Project Teams: An Agent-Based Modeling Approach". Ph.D. Dissertation, Construction Management program at Michigan State University, East Lansing, MI.

[166] **Du, J.** (2008). "A Study of Employee Performance Evaluation System". Master's Thesis, School of Management at Tianjin University, Tianjin, China.

[167] **Du, J.** (2004). "A Mathematical Model of Enterprise Resource Management". Bachelor Thesis, School of Management at Tianjin University, Tianjin, China.

[168] **Du, J.** (2004). "Automatic FEA Based Structural Design Using Visual Basic and ANSYS (APDL)". Bachelor Thesis, School of Civil Engineering at Tianjin University, Tianjin, China.

RESEARCH GRANTS

Funded (TOTAL: **$12.91 MILLION**; MY PORTION: **$5.36 MILLION**)

- **PI:** "Bridging Lunar Delays: Simulated Sensory Sharing for Remotely Guided Ultrasound Examinations".
  - 4/2024 – 2/2025
  - **UF Space Research Initiative Award**
  - $80,000; Amount Attributed to me: $80,000.

- **PI:** "Human-Robot Sensory Sharing for Swift Trust in Autonomy".
  - 12/2022 – 11/2025
  - **Air Force Office of Scientific Research (AFOSR)**
  - $599,322; Amount Attributed to me: $599,322.

- **PI:** "FW-HTF-R/Collaborative Research: Human-Robot Sensory Transfer for Worker Productivity, Training, and Quality of Life in Remote Undersea Inspection and Construction Tasks".
  - 09/2021 – 08/2025
  - **National Science Foundation (NSF)**
  - $2,090,000; Amount Attributed to me: $1,010,000.

- **PI:** "SearchAR: User Centered Adaptive Augmented Reality for Search and Rescue".
  - 06/2021 – 05/2024
  - **National Institute of Standards and Technology (NIST)**
  - $1,395,470. Amount Attributed to me: $1,395,470.

- **PI:** "Sensory Manipulation as a Countermeasure to Robot Teleoperation Delays".
  - 06/2021 – 05/2022
  - **The National Aeronautics and Space Administration (NASA)**
  - $150,000; Amount Attributed to me: $150,000.

- **PI:** "Collaborative Research: NRI: INT: ForceBot: Customizable Robotic Platform for Body-Scale Physical Interaction Simulation in Virtual Reality".
  - 09/2020 – 08/2024
  - **National Science Foundation (NSF)**
  - $312,985; Amount Attributed to me: $312,985.

- **PI:** "RAPID: Collaborative Research: High-Frequency Decisional, Motivational and Sentimental Data Collection for Human Mobility Prediction during COVID-19".
  - 05/2020 – 04/2021
  - **National Science Foundation (NSF)**
  - $66,515; Amount Attributed to me: $66,515.

- **Co-PI:** "Convergence Accelerator Phase I (RAISE): Learning Environments with Advanced Robotics for Next-Generation Emergency Responders (LEARNER)".
  - 09/2019 – 08/2021
  - **National Science Foundation (NSF)**
  - $999,327; Amount Attributed to me: $127,129.

- **Co-PI:** "B2: Learning Environments with Augmentation and Robotics for Next-gen Emergency Responders (LEARNER)".
  - 09/2020 – 08/2022
  - **National Science Foundation (NSF)**
  - $4,998,274; Amount Attributed to me: $649,988

- **PI:** "Collaborative Research: Personalized System for Wayfinding for First Responders".
    - 06/2018 – 05/2022
    - **National Science Foundation (NSF)**
    - $416,677; Amount Attributed to me: $235,339.

- **PI:** "Cognition-driven Display for Navigation Activities (Cog-DNA): Personalized Spatial Information System Based on Information Personality of Firefighters".
    - 06/2018 – 05/2022
    - **National Institute of Standards and Technology (NIST)**
    - $463,413; Amount Attributed to me: $265,576.

- **PI:** "Intelligent Building Inspection System based on Augmented Reality".
    - 03/2020 – 02/2021
    - **C.A.P. Government, Inc**.
    - $70,681; Amount Attributed to me: $70,681.

- **PI:** "Hostile Intent Prediction based on Gaze Movement Trajectory in Indoor Navigation".
    - 05/2018 – 04/2019
    - **TAMU T3 Seed Grant**
    - $35,000; Amount Attributed to me: $25,000.

- **Co-PI:** "Enhancing Flood Resiliency in an Underserved Neighborhood".
    - 10/2017 – 09/2018
    - **TAMU Interdisciplinary Research Seed Grant**
    - $25,000; Amount Attributed to me: $5,000.

- **Co-PI:** "IBSS: Participatory Ensemble Modeling to Study the Multiscale Social and Behavioral Dynamics".
    - 08/2014 – 07/2019
    - **National Science Foundation (NSF)**
    - $999,793; Amount Attributed to me: $187,695.

- **PI:** "Optimize Road Preventive Maintenance Decisions based on Running Vehicles' Vibration Data".
    - 05/2018 – 10/2019
    - **US DOT - TranSET**
    - $100,000; Amount Attributed to me: $50,000.

- **Co-PI:** "Building Information Modeling Supported Building Life Cycle Management: On the Edge of Total Information Management".
    - 09/2014 – 08/2015
    - **Fiatech**
    - $68,220; Amount Attributed to me: $20,000.

- **PI:** "Enhance Project Controls by Quantitative Approaches".
    - 04/2014 – 08/2017
    - **Zachry Holdings, Inc**.
    - $116,264; Amount Attributed to me: $116,264.

- **PI:** "A Cloud-Based Benchmarking Tool for Building Information Modeling (BIM)".
    - September 2014 – August 2015

- o **UTSA INTRA Grant**.
- o $5,000; Amount Attributed to me: $5,000

GRADUATE STUDENT SUPERVISION

Name	Degree	Graduation (or estimate)	Topic	Role
Yangming Shi	PhD (UF) TT AP at University of Alabama and Colorado School of Mines	Aug 2020	VR-based Intelligent Information Systems for pipefitting operations	Chair
Qi Zhu	PhD (UF) Research Scientist at NIST Communications Technology Laboratory	May 2022	VR-Based Robotic Teleoperation System for Power Plant Maintenance and Operations	Chair
Tianyu Zhou	PhD (UF) Post-Doctoral Researcher at UF	May 2023	Situational Awareness Enhancement in Civil Engineering Operations Via Deep Learning and Game Engine Development	Chair
William Vann	PhD (UF)	May 2023	Robot-Assisted Training for Future Construction Workers	Chair
Pengxiang Xia	PhD (UF)	Dec 2023	Human-In-The-Loop Architecture and Methods in Civil Engineering Human Robot Collaboration	Chair
Ye Yang	PhD (UF)	May 2024	Construction Exoskeleton	Chair
Fang Xu	PhD (UF)	May 2024	Ground Robot for Augmented Reality	Chair
Thanakon Uthai	PhD (UF)	May 2025	Building Information Modeling	Chair
Ebraheem Dera	PhD (UF)	May 2025	Building Information Modeling	Chair
Elahe Yahyapour	PhD (UF)	May 2026	Cognition-Driven Augmented Reality	Chair
Hengxu You	PhD (UF)	May 2026	Underwater Robot for Subsea Construction	Chair
Jiahao Wu	PhD (UF)	May 2026	Autonomous Drones	Chair
Bowen Sun	PhD (UF)	May 2027	Autonomous Drones	Chair
Jingjie Zhang	PhD (TAMU)	Aug 2020	Improved Copula method for independent high-dimensional data analysis	Co-Chair
Yanchao Wang	PhD (Northeastern)	Aug 2021	Personalized Information System for Wayfinding based on VR and EEG classification	Co-Chair
Robert Hernandez	M.S. (UF)	Aug 2020	BIM for facilities management – U.S. Airforce case study I	Co-Chair

Morgan Webber	M.S. (UF)	Aug 2020	BIM for facilities management – U.S. Airforce case study II	Co-Chair
Allison Pontal	M.S. (UF)	Aug 2020	BIM for facilities management – U.S. Airforce case study III	Co-Chair
Nishith Singh	M.S. (TAMU)	April 2017	Social Network Analysis for BIM-enabled project communication	Chair
Rolando Moreno	M.S. (TAMU)	April 2019	VR-based training for pipe fitting workers	Chair
Jorge Rincon	M.S. (TAMU)	April 2017	Stakeholder 'Autonomous Agent' Affecting Last Planner System Performance in Texas	Member
Min Ma	M.S. (TAMU)	Dec 2017	Last Planner Systems for project management	Member
Dustin Han	M.S. (TAMU)	Dec 2017	Hand Remapping method for Virtual Reality object interactions	Member

PATENTS

- 201310461382.3: "Method and Apparatus for Real-time Inter-locational Probabilistic Simulation" CHINA
- USPTO13929903: "Method and Apparatus for Real-time Inter-locational Probabilistic Simulation"
- Du, J., Zhu, Q., and Zhou, T. "Haptic System for Robot Teleoperation in Confined Spaces". U.S. Patent Application No.63/366,092. Filed on June 9, 2022.
- Du, J., Xia, P., Xu, F., and Zhu, Q. "Haptic System for Robot Teleoperation of a Remotely Operated Vehicle". U.S. Patent Application No.63/368,074. Filed on July 11, 2022.
- Du, J., Ye, Y. "Systems and Methods Remote Transferring of Sensation for Physical Motor Training". U.S. Patent Application No.63/371,016. Filed on August 10, 2022.
- Du, J., Zhu, Q., Zhou, T. "Haptic Feedback System for Anti-Sway Control of a Payload". U.S. Patent Application No.63/370,174. Filed on August 10, 2022.

TEACHING

- CGN 6905 – Advanced Construction Info Tech – Fall 22– Instructor Evaluation: 4.94/5.0
- CGN 4905 – Construction Modeling and Simulation – Fall 22 – Instructor Evaluation: 4.79/5.0
- CGN 6905 – Advanced Construction Info Tech – Fall 21– Instructor Evaluation: 4.47/5.0
- CGN 4905 – Construction Modeling and Simulation – Fall 21 – Instructor Evaluation: 4.58/5.0
- CGN 6905 – Advanced Construction Info Tech – Fall 21– Instructor Evaluation: 4.37/5.0
- CGN 4905 – Construction Modeling and Simulation – Fall 21 – Instructor Evaluation: 5.0/5.0
- CGN 6905 – Advanced Construction Info Tech – Fall 20– Instructor Evaluation: 4.45/5.0
- CGN 4905 – Construction Modeling and Simulation – Fall 20 – Instructor Evaluation: 5.0/5.0
- CGN 6905 – Advanced Construction Info Tech – Fall 19 – Instructor Evaluation: 4.70/5.0
- CGN 4905 – Construction Modeling and Simulation – Fall 19 – Instructor Evaluation: 4.57/5.0
- COSC 461 – Building Information Modeling – Fall 18 – Instructor Evaluation: 4.89/5.0; 4.78/5.0
- COSC 461 – Building Information Modeling – Spring 18 – Instructor Evaluation: 4.64/5.0; 4.55/5.0

- COSC 461 – Building Information Modeling – Fall 17 – Instructor Evaluation: 4.54/5.0
- COSC 461 – Construction Company Operation – Fall 17 – Instructor Evaluation: 4.46/5.0
- COSC 461 – Building Information Modeling – Spring 17 – Instructor Evaluation: 4.49; 4.51/5.0
- COSC 461 – Construction Company Operation – Fall 16 – Instructor Evaluation: 4.58/5.0
- COSC 461 – Building Information Modeling – Fall 16 – Instructor Evaluation: 4.70/5.0
- COSC 353 – Construction Project Management - Summer 16 - Instructor Evaluation: 4.49/5.0
- COSC 461 – Building Information Modeling - Spring 16 – Instructor Evaluation: 4.73/5.0
- COSC 443 – Industrial Capstone - Spring 16 – Instructor Evaluation: 4.57/5.0
- COSC 620 – Construction Company Operation - Fall 15 – Instructor Evaluation: 4.67/5.0
- COSC 642 – Construction Information Technology - Fall 15– Instructor Evaluation: 4.57/5.0
- CSM 2113 – Construction Materials and Methods - Spring 15– Teaching Evaluation: 4.83/5.0
- CSM 2143 – Construction Materials and Testing – Fall 14. Teaching Evaluation:4.5/5.0; 4.6/5.0
- CSM 4713 - Construction Capstone – Spring 14. Teaching Evaluation: 4.71/5.0
- CSM 3011 – Construction Industry Contemporary Issues – Spring 14. Teaching Evaluation: 4.5/5.0

INVITED PRESENTATIONS AND LECTURES

- Du, J. (2023). "Cognition-Drive UI for Complex Systems". SAP Corporation Invited Speaker Series.
- Du, J. (2023). "Embodied Robotics for Construction". Northeastern University Distinguished Seminar Series.
- Du, J. (2023). "Human-Robot Sensory Sharing for Future Industrial Operations". 3rd ACC Workshop on Recent Advancement of Human Autonomy Interaction and Integration
- Du, J. (2023). "Embodied Robot Teleoperation for the Next-Gen Construction". Kennesaw State University distinguished seminar series.
- Du, J. (2022). "Embodied Teleoperation via Human-Robot Sensory Transfer". Keynote. The 2022 IEEE International Conference on Human-Machine Systems (ICHMS)
- Du, J. (2022). "Physical Embodiment in Robot Teleoperation". NASA HOME (Habitats Optimized for Missions of Exploration) Space Technology Research Institute
- Du, J. (2022). "Human-Robot Collaboration: Envisioning the Future of Construction". Seoul National University Distinguished Lecture series, South Korea
- Du, J. (2022). "Intelligent Construction Teleoperation Robot". Kent State University Distinguished Lecture series
- Du, J. (2022). "Human-Robot Collaboration: Envisioning the Future of Construction". Purdue University, Lyles of Civil and Environmental Engineering Industry Advisory Board
- Du, J. (2022). "Human-Robot Collaboration in Industrial Workplaces". UF/IFAS Department of Agricultural and Biological Engineering
- Du. J. (2021). "Robot for Future Works". Institute for Learning in Retirement at Oak Hammock.
- Du, J. (2020). "Personalized Wayfinding System for Firefighters". CES 2020, Las Vegas, NV.
- Du, J. (2019). "Cog-DNA: Personalized Wayfinding System for Firefighters". NIST PSCR 2019 Annual Conference. https://youtu.be/bSyGr6sHQQw
- Du, J. (2018). "Cognition-Driven Display for Navigation Activities: Cog-DNA". National Public Safety Telecommunications Council (NPSTC). https://youtu.be/Hf14xv2NLbQ
- Du, J. (2018). "Cog-DNA: Personalized Wayfinding System for Firefighters". NIST PSCR 2018 Annual Conference. https://cdnapisec.kaltura.com/index.php/extwidget/preview/partner_id/684682/uiconf_id/31013851/entry_id/1_1trod30r/embed/dynamic#t=28:40

- Du, J. (2018). "Vibrations, the Common Language of Internet of Things (IoT)". TEDxTAMU. https://www.ted.com/talks/eric_jing_du_vibrations_the_common_language_of_internet_of_things_io ts
- Du, J. (2018). "Human Carried Sensors to Study Navigational Behaviors". Workshop on Wearable Sensors and Mobile Computing in Construction, IEEE Body Sensor Network (BSN)'18 Conference.
- Du, J. (2013). "Dr. Du Learning Moment – Series Seminars". Zachry Holdings, Inc, San Antonio, TX, January 2013-August 2013.
- Du, J. (2012). "Project Management and Controls - Series Seminars". Zachry Holdings, Inc, R.O.C.K.S. Lectures, San Antonio, TX, July 2012-August 2013.
- Du, J. (2011). "Data Mining and Statistical Methods in Construction Project Management and Controls". Zachry Holdings, Inc, R.O.C.K.S. Speech, San Antonio, TX, July 2011.
- Du, J. and Wang, Q. (2010). "Agent Based Modeling and Its Integrated Development Environment". Michigan State University, MSU-ABM group, East Lansing, MI, October 8, 2010.
- Du, J. (2010). "Towards an Agile Alignment: Exploring Implications of Social Aspects in Construction Organizations". Engineering Project Organizations Conference, South Lake Tahoe, CA, November 4-7, 2010.
- Du, J. (2010). "Discrete Event Simulation and Its Applications in Construction Engineering and Management". Michigan State University, Lecture Session of Complexity Based Simulation in Planning Design and Construction, East Lansing, MI, October, 2010.
- Du, J. (2009). "Risk Attitudes and US Construction Market: A Simulation Finding". Michigan State University, MSU-ABM group, East Lansing, April 20, 2009.

HONORS AND ACHIEVEMENTS

- 2023, Outstanding Reviewer, ASCE *Journal of Computing in Civil Engineering*
- 2022, NIST Public Safety Communication Research (PSCR) division research excellence award.
- 2022, Best Paper Award, 55th Annual Meeting of the Human Factors and Ergonomics Society (HFES).
- 2022, Best Paper Award, and Honorable Mention Award, Canadian Society of Civil Engineers (CSCE) Transforming Construction with Reality Capture Technologies (TCRC) conference.
- 2019 Outstanding Reviewer, ASCE *Journal of Construction Engineering and Management*.
- 2018 Outstanding Reviewer, ASCE *Journal of Construction Engineering and Management*.
- 2018 TAMU Montague CET Excellence Scholar for exemplary undergraduate teaching
- 2018 TAMU COSC Scholarly Work and Research Award
- 2017 Outstanding Reviewer, ASCE *Journal of Construction Engineering and Management*.
- 2015 Annual Best Paper Award. ASCE *Journal of Construction Engineering and Management*.
- 2014 Best Paper Award. *International Conference on Innovative Technologies in Construction (ITC 2014)*.
- 2014 Outstanding Research and Scholarship Award, CoA UTSA
- 2012 Phi-Kappa-Phi Honor Society Member
- 2012 Albert A. White Scholarship, Michigan State University
- 2012 Ed Gavin Memorial Scholarship, Michigan State University
- 2011 Ed Gavin Memorial Scholarship, Michigan State University
- 2010 Douglass C. Campbell Scholarship, Michigan State University
- 2009 Travel Funding Fellowship, Graduate School at Michigan State University
- 2009 Klomparens Fellowship, Michigan State University
- 2009 College Special Fellowship, Michigan State University
- 2009 Graduate Opportunity Fellowship (GOF), Michigan State University
- 2008 Graduate Opportunity Fellowship (GOF), Michigan State University
- 2008 Graduate School Summer Fellowship, Graduate School at Michigan State University

- 2006 School of Management Research Symposium, Session Chair, Tianjin University
- 2005 President of School of Management Graduate Student Association at Tianjin University
- 2003 Vice Chairman of Student Council at Tianjin University
- 2003 Student Leadership Scholarship, Tianjin University
- 2002 Student Leadership Scholarship, Tianjin University
- 2002 Three A's Student Scholarship, Tianjin University
- 2001 Three A's Student Scholarship, Tianjin University
- 2000-2004 Chairman of Student League in the School of Civil Engineering at Tianjin University

SERVICES

- **Vice Chair,** ASCE Visualization, Information Modeling and Simulation (VIMS) Committee, *2023 – present*
- **Secretary,** ASCE Visualization, Information Modeling and Simulation (VIMS) Committee, *2021 – 2023*
- **Member-at-Large,** ASCE Visualization, Information Modeling and Simulation (VIMS) Committee, *2019 – 2021*
- **Voting member,** ASCE Visualization, Information Modeling and Simulation (VIMS) Committee, 2015 - 2019
- **Assistant Specialty Editor**, ASCE *Journal of Construction Engineering and Management, 2017-present*
- **Associate Editor,** *Buildings*, 2022 – present
- **Guest Editor,** *ELSEVIER Advanced Engineering Informatics, 2019-2022*
- **Guest Editor,** *Data, 2018-2020*
- **Track Editor,** *ACM/IEEE Winter Simulation Conference (WSC), 2019 - present*
- **Conference Organizing Member**, i3CE 2021; ASCE Construction Research Congress (CRC) 2020, 2019, 2018; *2017 International Workshop on Computing in Civil Engineering (IWCCE2017)*.
- **Search Committee Member,** TAMU (2), UF (6)
- **Committee Member**, TAMU COSC Technology committee, 2015-2019
- **Committee Member**, ASCE *ICSDEC 2016 conference*, 2015-2016
- **Committee Member**, UTSA Construction Science Scholarship Committee, 2013-2015
- **Reviewer**, *ELSEVIER Automation in Construction*, 2014- present
- **Reviewer**, *ELSEVIER Advanced Engineering Informatics*, 2017- present
- **Reviewer**, ASCE *Journal of Computing in Civil Engineering*, 2012-present
- **Reviewer**, ASCE *Journal of Urban Planning and Development*, 2011-present
- **Reviewer**, ASCE *Journal of Construction Engineering and Management*, 2014-present
- **Reviewer**, ASCE *Journal of Management in Engineering*, 2014-present
- **Reviewer**, ASEE Conference 2014, 2013- present
- **Reviewer**, ASCE *CRC Conference*, 2013- present
- **Reviewer**, ASCE *ICCCBE Conference*, 2013- present
- **Reviewer**, *Associated Schools of Construction (ASC) Annual Conference*, 2012-present
- **Reviewer**, *Engineering Project Organization Conference (EPOC)*, 2010-2011

PROFESSIONAL AFFILIATIONS

- AAAS (American Association for the Advancement of Science), Member, 2022 - Present
- ASCE (American Society of Civil Engineers), Member, 2014- Present

- ASCE Data Sensing and Analysis (DSA) Committee, Voting Member, 2016- Present
- ASCE Visualization, Information Modeling and Simulation (VIMS) Committee, Voting Member, 2016- Present; Secretary, 2020 – present.
- ACM (Association for Computing Machinery). Member, 2019 – present.
- CII (Construction Industry Institute), Academic Committee; Research Team Member (RT282)
- LCI (Lean Construction Institute), Student Member, 2010-2011
- EPOS (Engineering Project Organization Society), Charter Member, 2010-2014.

MEDIA COVERAGE

- "Tech Trends: Bringing VR and AR Into the ROV Control Room" *Hart Energy*. https://www.hartenergy.com/exclusives/tech-trends-bringing-vr-and-ar-rov-control-room-watch-206061
- "Tech Allows ROV Pilots to 'Feel' the Sea" *Hart Energy*. https://www.hartenergy.com/exclusives/tech-allows-rov-pilots-feel-sea-206073
- "A UF Professor Is Creating Robotic Dogs Trained to Assist First Responders" *NPR-WUFT*. https://www.wuft.org/news/2021/08/03/a-uf-professor-is-creating-robotic-dogs-trained-to-assist-first-responders/
- "University of Florida's robot dogs aim to be first responders' best friend" *Gainesville Sun*.
- "Robots offer power, promise". *The Villages Daily Sun.*
- "How a robot developed at UF could help first responders see through walls during rescues" *University of Florida*, https://news.ufl.edu/2021/05/robo-dog/
- "Training responders to use augmented reality, exoskeletons". *Global Cycling Network*
- "Firefighters to Perform Search and Rescue Missions Using CoSci Prof's VR Tech" – *Texas A&M University*, https://today.tamu.edu/2018/06/05/firefighters-to-perform-search-and-rescue-missions-using-cosci-profs-vr-tech/
- "CoSci prof's proposed app would gauge effectiveness of 3-D models" – *Texas A&M University*, 2016. https://one.arch.tamu.edu/news/2016/6/28/cosci-profs-app-gauge-effectiveness-3d-models/
- "Facebook Timeline Tracks Century of Construction Technology" – *Engineering News-Record (ENR)* 2015. http://www.enr.com/articles/17215-facebook-timeline-tracks-century-of-construction-technology?v=preview
- "Aggies Post Timeline of Construction Tech Milestones" – *BuiltWorlds* 2015. http://www.builtworlds.com/news/2015/10/7/facebook-timeline-tracks-century-of-construction-technology
- "UTSA researcher working to end hunger in Africa through technology" – *San Antonio Business Journal* < http://www.bizjournals.com/sanantonio/news/2014/08/07/utsa-researcher-working-to-end-hunger-in-africa.html>
- "UTSA researcher awarded NSF grant to create computer models for food insecurity project" – *Phys.org* < http://phys.org/wire-news/168800342/utsa-researcher-awarded-nsf-grant-to-create-computer-models-for.html>
- "UTSA researcher awarded NSF grant to help increase Africa food security (UTSA - The University of Texas at San Antonio)" *World News Network* <http://article.wn.com/view/2014/08/06/UTSA_researcher_awarded_NSF_grant_to_help_increase_Africa_fo/>
- "UTSA researcher to create computer models to produce sustainable food security in the region" – *News-Medical.Net* < http://www.news-medical.net/news/20140807/UTSA-researcher-to-create-computer-models-to-produce-sustainable-food-security-in-the-region.aspx>