Zhengbo Zou

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APPOINTMENTS

Columbia University — **New York, NY**
Assistant Professor, Department of Civil Engineering and Engineering Mechanics — 2024 - Present

The University of British Columbia — **Vancouver, CANADA**
Assistant Professor, Department of Civil Engineering — 2021 - 2024

EDUCATION

New York University — **New York, NY**
Doctor of Philosophy in Civil Engineering, minor in Data Science — 2021

Carnegie Mellon University — **Pittsburgh, PA**
Master of Science in Civil Engineering — 2015

Tongji University — **Shanghai, China**
Bachelor of Engineering in Civil Engineering — 2014

PUBLICATIONS

Students under Zou's supervision underscored, corresponding author marked with *

Journal Papers

1. Duan, K., & **Zou, Z.***. (2025). "Safety-constrained Deep Reinforcement Learning control for human–robot collaboration in construction". *Automation in Construction*, 176, 106130.

2. Liu, Z., Xu, J., Suen, C., Chen, M., **Zou, Z.,** & Shi, Y*. (2025). "Egocentric camera-based method for detecting static hazardous objects on construction sites". *Automation in Construction*, 172, 106048.

3. Tian, M., & **Zou, Z.***. (2025). "Safety-oriented Human-Robot Collaboration in Construction through Human Preference Alignment". *Journal of Intelligent Construction*, 10.26599/JIC.2025.9180092.

4. Duan, K., & **Zou, Z.***. (2025). "Enhancing construction robot collaboration using multi-agent reinforcement learning". *Journal of Intelligent Construction*, 10.26599/JIC.2025.9180089.

5. Duan, K., **Zou, Z.***, & Yang, T. Y. (2025). "Training of Construction Robots using Imitation Learning and Environmental Rewards". *Computer-Aided Civil and Infrastructure Engineering*, 10.1111/mice.13394.

6. Li, R., & **Zou, Z.***, (2025). "How Far Back Shall We Peer? Optimal Air Handling Unit Control Leveraging Extensive Past Observations". *Building and Environment*, 269, 112347.

7. Duan, K., & **Zou, Z.***, (2024). "Morphology Agnostic Gesture Mapping for Intuitive Teleoperation of Construction Robots". *Advanced Engineering Informatics*, 62, 102600.

8. Gao, S., **Zou, Z.**, Zhou, Z., Wan, C.*, Xie, L., & Xue, S., (2024). "An unsupervised context-free forecasting method for structural health monitoring by generative adversarial networks with progressive growing and self-attention". *Structural Health Monitoring*, 14759217241269702.

9. Yang, K., Ding, Y.*, Jiang, H., Zhang, Y., & **Zou, Z.**, (2024). "Deep learning based bridge damage identification approach inspired by internal force redistribution effects". *Structural Health Monitoring*, 14759217231176050.

10. Huang, L., Cai, W., Zhu, Z., & **Zou, Z.***, (2023). "Dexterous manipulation of construction tools using anthropomorphic robotic hand". *Automation in Construction*, 156, 105133.

11. Duan, K., Suen, C., & **Zou, Z.***, (2023). "Robot morphology evolution for automated HVAC system inspections using graph heuristic search and reinforcement learning". *Automation in Construction*, 153, 104956.

12. Cai, W., Huang, L., & **Zou, Z.***, (2023). "Actively-exploring thermography-enabled autonomous robotic system for detecting and registering HVAC thermal leaks". *Automation in Construction*, 152, 104901.

13. Zhang, H. X., & **Zou, Z.***, (2023). "Quality assurance for building components through point cloud segmentation leveraging synthetic data". *Automation in Construction*, 155, 105045.

14. Huang, L., Zhu, Z., & **Zou, Z.***, (2023). "To imitate or not to imitate: An integrated approach to boost reinforcement learning-based construction robotic control for long-horizon tasks using virtual demonstrations". *Automation in Construction*, 146, 104691.

15. Li, R., & **Zou, Z.***, (2023). "Enhancing Construction Robot Learning for Collaborative and Long-Horizon Tasks using Generative Adversarial Imitation Learning". *Advanced Engineering Informatics*, 58, 102140.

16. Yu, X., **Zou, Z.***, & Ergan, S., (2023). "Extracting principal building variables from automatically collected façade images for energy conservation through deep transfer learning". *Applied Energy*, 344, 121228.

17. Li, Y., **Zou, Z.**, Zhang, J.*, & He, Y., (2023). "Study on the evolution of asphalt pavement integrated disease of airports based on associate rule mining". *Construction and Building Materials*, 369, 130565.

18. **Zou, Z.***, & Ergan, S. (2023). "Towards Emotionally Intelligent Buildings: A Convolutional Neural Network based Approach to Classify Human Emotional Experience in Virtual Built Environments". *Advanced Engineering Informatics*, 55, 101868.

19. Yang, K., Ding, Y.*, Geng, F., Jiang, H., & **Zou, Z.**, (2023). "A multi-sensor mapping Bi-LSTM model of bridge monitoring data based on spatial-temporal attention mechanism". *Measurement*, 217, 113053.

20. Li, Y., **Zou, Z.**, Zhang, J.*, He, Y., Huang, G., & Li, J. (2023). "Refined evaluation methods for preventive maintenance of project-level asphalt pavement based on confusion-regression model". *Construction and Building Materials*, 403, 133105.

21. Duan, K., Cao. S.*, **Zou, Z.**, Huang, L., & He, Z. (2022). "Revealing the nature of concrete materials using soft computing models". *Journal of Building Engineering*, 59, 105148.

22. Ergan, S.*, **Zou, Z.**, Bernardes, S. D., Zuo, F., & Ozbay, K. (2022). "Developing an integrated platform to enable hardware-in-the-loop for synchronous VR, traffic simulation and sensor interactions". *Advanced Engineering Informatics*, 51, 101476.

23. **Zou, Z.***, & Ergan, S. (2021). "Evaluating the effectiveness of biometric sensors and their signal features for classifying human experience in virtual environments". *Advanced Engineering Informatics*, 49, 101358.

24. **Zou, Z.***, Ergan, S., Fisher-Gewirtzman, D., & Curtis, C. (2020). "Quantifying the Impact of Urban Form on Human Experience: An Experiment using Virtual Environments and Electroencephalogram". *Journal of Computing in Civil Engineering*, 35(3), 04021004.

25. **Zou, Z.***, Yu, X., & Ergan, S. (2019). "Towards Optimal Control of Air Handling Units using Deep Reinforcement Learning and Recurrent Neural Network". *Building and Environment*, 106535.

26. Ergan, S., Radwan, A., **Zou, Z.***, Tseng, H. A., & Han, X. (2018). "Quantifying Human Experience in Architectural Spaces with Integrated Virtual Reality and Body Sensor Networks". *Journal of Computing in Civil Engineering*, 33(2), 04018062.

27. **Zou, Z.***, Arruda, L., & Ergan, S. (2018). "Characteristics of Models that Impact Transformation of BIMs to Virtual Environments to Support Facility Management Operations". *Journal of Civil Engineering and Management*, 24(6), 481-498.

28. Du, J.*, **Zou, Z.**., Shi, Y., & Zhao, D. (2018). "Zero Latency: Real-time Synchronization of BIM Data in Virtual Reality for Collaborative Decision-making". *Automation in Construction*, 85, 51-64.

29. Du, J.*, Shi, Y., **Zou, Z.**, & Zhao, D. (2017). "CoVR: Cloud-based Multiuser Virtual Reality Headset System for Project Communication of Remote Users". *Journal of Construction Engineering and Management*, 144(2), 04017109.

Highly Selective Conference Proceedings

1. Zhang, H. X., Yang, Y., & **Zou, Z.** (2024). "ICON drone: Autonomous indoor exploration using Unmanned Aerial Vehicle for semantic 3D reconstruction". In *11th ACM International Conference on Systems for Energy-Efficient Built Environments* (*BuildSys 2024*). Nov. 7-8, Hangzhou, China. *acceptance rate: 31%*

2. Huang, L., Cai, W., Zhu, Z., Feng, C., Rhodin, H., & **Zou, Z.** (2024). "VIRL: Self-Supervised Visual Graph Inverse Reinforcement Learning". In *8th Annual Conference on Robot Learning* (*CoRL 2024*). Nov. 6-9, Munich, Germany. *acceptance rate: 38%*

3. Cai, W., Huang, L., & **Zou, Z.** (2023). "RoboAuditor: Goal-Oriented Robotic System for Assessing Energy-intensive Indoor Appliance via Visual Language Models". In *10th ACM International Conference on Systems for Energy-Efficient Built Environments* (*BuildSys 2023*). Nov. 15-16, Istanbul, Turkiye. *acceptance rate: 30%*

4. Cai, W., Huang, L., Zhang, L., Yu, X., & **Zou, Z.** (2022). "TEA-bot: A Thermography Enabled Autonomous Robot for Detecting Thermal Leaks of HVAC Systems in Ceilings". In *9th ACM International Conference on Systems for Energy-Efficient Built Environments* (*BuildSys 2022*). Nov. 9-10, Boston, MA. *acceptance rate: 30%*

Other Peer-reviewed Conference Proceedings

5. Zhang, H.X., & **Zou, Z.** (2025). "Comparing Fully Supervised and Zero-Shot Models for Material Semantic Segmentation of As-Built Buildings". In *ASCE International Conference on Computing in Civil Engineering* (*i3ce*), May 11-14. New Orleans, LA.

6. Duan, K., & **Zou, Z.** (2025). "Enhancing Collision Avoidance in Construction Robot Manipulation Using Trust Region Conditional Value at Risk". In *ASCE International Conference on Computing in Civil Engineering* (*i3ce*), May 11-14. New Orleans, LA.

7. Cai, W., Suen, C., & **Zou, Z.** (2025). "LightSplat: Leveraging Gaussian Splatting for illuminance estimation in light audits". In *ASCE International Conference on Computing in Civil Engineering* (*i3ce*), May 11-14. New Orleans, LA.

8. Huang, L., Yan, Q., & **Zou, Z.** (2025). "Interactive Construction Robots for Timber Truss Assembly via Vision-Language Model and Mark-Based Visual Prompting". In *ASCE International Conference on Computing in Civil Engineering* (*i3ce*), May 11-14. New Orleans, LA.

9. Chen, X., Zhang, S., & **Zou, Z.** (2024). "Can Large Vision-Language Models Understand Construction Safety? A Novel Benchmark Using Construction Safety Posters". In *ASCE International Conference on Computing in Civil Engineering* (*i3ce*), July 28-31. Pittsburgh, PA.

10. Tian, M., & **Zou, Z.**(2024). "Aligning Safe Construction Robot Actions with Human Preferences". In *ASCE International Conference on Computing in Civil Engineering* (*i3ce*), July 28-31. Pittsburgh, PA.

11. Liu, Z., Xu, J., Suen, C., Chen, M., **Zou, Z.,** Feng, A., & Shi, Y. (2024). "Detecting without Training: An Open-vocabulary Object Detection Method for Identifying Hazardous Objects on the Construction Site". In *ASCE International Conference on Computing in Civil Engineering* (*i3ce*), July 28-31. Pittsburgh, PA.

12. Duan, K. & **Zou, Z.** (2023). "Self-optimization of robot design for navigating in ceiling systems". In *ASCE International Conference on Computing in Civil Engineering* (*i3ce*), June 25-27. Corvallis, Oregon.

13. Li, R., & **Zou, Z.** (2023). "Expert Demonstration Collection of Long-horizon Construction Tasks in Virtual Reality". In *ASCE International Conference on Computing in Civil Engineering* (*i3ce*), June 25-27. Corvallis, Oregon.

14. Suen, C., Liu, Z., Shi, Y., & **Zou, Z.** (2023). "ICON-Pose: Towards Egocentric Action Recognition for Intelligent Construction". In *ASCE International Conference on Computing in Civil Engineering* (*i3ce*), June 25-27. Corvallis, Oregon.

15. Liu, Z., Suen, C., **Zou, Z.**, Chen, M., & Shi, Y. (2023). "Assessing Workers' Operational Postures via Egocentric Collaborative Camera Mapping". In *ASCE International Conference on Computing in Civil Engineering* (*i3ce*), June 25-27. Corvallis, Oregon.

16. Huang, L., Cai, W., & **Zou, Z.** (2022). "Virtual Reality-based Expert Demonstration for Training Construction Robots via Imitation Learning". In *Canadian Society for Civil Engineering* (*CSCE*) *Annual Conference*, May 25-28, Whistler, BC, Canada. ***Best Student Paper of the General Conference.***

17. Cai, W., Huang, L., & **Zou, Z.** (2022). "An Integrated Approach Combining Virtual Environments and Reinforcement Learning to Train Construction Robots for Conducting Tasks under Uncertainties". In *Canadian Society for Civil Engineering* (*CSCE*) *Annual Conference*, May 25-28, Whistler, BC, Canada.

18. Zhang, H.X., Huang, L., Cai, W., & **Zou, Z.** (2022). "Semantic Segmentation of Synthetic Images into Building Components for Automated Quality Assurance". In *Canadian Society for Civil Engineering (CSCE) Annual Conference*, May 25-28, Whistler, BC, Canada.

19. Huang, L., & **Zou, Z.** (2022). "Boosting Performance of Reinforcement Learning based Construction Robots in Simulation using Expert Demonstrations Collected in Virtual Reality". In *Association for Computing Machinery (ACM) Winter Simulation Conference*, Dec. 11-14, Marina Bay Sands, Singapore.

20. Cai, W., & **Zou, Z.** (2022). "Generalizing Construction Robot Control using Multi-task Reinforcement Learning". In *Association for Computing Machinery (ACM) Winter Simulation Conference*, Dec. 11-14, Marina Bay Sands, Singapore.

21. Huang, L., & **Zou, Z.** (2022). "Deep Reinforcement Learning-based Construction Robots Collaboration for Sequential Tasks". In *IEEE International Conference on Robotics and Automation (ICRA) workshop - Future of Construction: Build Faster, Better, Safer - Together with Robots*, May. 23-27, Philadelphia, PA.

22. Cai, W., & **Zou, Z.** (2022). "A Reinforcement Learning Based Approach for Conducting Multiple Tasks using Robots in Virtual Construction Environments". In *IEEE International Conference on Robotics and Automation (ICRA) workshop - Future of Construction: Build Faster, Better, Safer - Together with Robots*, May. 23-27, Philadelphia, PA.

23. Bernardes, S. D., **Zou, Z.**, Zuo, F., Ergan, S., Khan, J. A. & Ozbay, K. (2021). "Development of a Virtual-Reality Based Immersive and Integrated Traffic Simulation Platform for Studying Traffic Work Zone Safety Problems". In *TRB Annual Meeting, Transportation Research Board*. January 5 - January 29. Washington D.C.

24. **Zou, Z.**, Bernardes, S., Kurkcu, K., Ergan, S., & Ozbay, K. (2020). "An Integrated Approach to Capture Construction Workers' Response to Safety Notifications using Wearable Sensors and Virtual Reality". In *European Group for Intelligent Computing in Engineering (EG-ICE)*, June 30 - July 3rd, Berlin, Germany.

25. **Zou, Z.**, & Ergan, S. (2020). "Impact of Design on Human Experience: Evaluating Space Preferences in Interior Design Alternates Presented in A Crowdsourcing Platform". In *ASCE Construction Research Congress*, March 8-10, 2019, Phoenix, Arizona.

26. **Zou, Z.**, Yu, X., & Ergan, S. (2019). "Integrating Biometric Sensors, VR, and Machine Learning to Classify EEG Signals in Alternative Architecture Designs". In *ASCE International Conference on Computing in Civil Engineering 2019: Visualization, Information Modeling, and Simulation, i3ce 2019*, June 17-19, Atlanta, Georgia.

27. **Zou, Z.**, & Ergan, S. (2019). "Zero Latency for Emergencies: A Machine Learning based Approach to Quantify the Impact of Construction Projects on Emergency Response in Urban Settings". In *Canadian Society for Civil Engineering (CSCE) Annual Conference*, June 12-15, Montreal, Quebec, Canada.

28. **Zou, Z.**, & Ergan, S. (2019). "A Framework towards Quantifying Human Restorativeness in Virtual Built Environments". In *Environmental Design Research Association (EDRA)*, May 22-26, Brooklyn, New York.

29. **Zou, Z.**, Ergan, S. (2018). "Where Do We Look? An Eye-Tracking Study of Architectural Features in Building Design". In *Advances in Informatics and Computing in Civil and Construction Engineering*, Oct 1-3, Chicago, Illinois.

30. **Zou, Z.**, & Ergan, S. (2018). "Impact of Construction Projects on Urban Quality of Life: A Data Analysis Method". In *ASCE Construction Research Congress*, April 2-4, New Orleans, Louisiana.

31. Du, J., **Zou, Z.**, Shi, Y., & Zhao, D. (2017). "Simultaneous Data Exchange between BIM and VR for Collaborative Decision Making". In *International Workshop of Computing in Civil Engineering (IWCCE)*, June 25-27, Seattle, Washington.

32. Kasireddy, V., **Zou, Z.**, Akinci, B., & Rosenberry, J. (2016). "Evaluation and Comparison of Different Virtual Reality Environments Towards Supporting Tasks Done on a Virtual Construction Site". In *ASCE Construction Research Congress*, May 31-June 2, San Juan, Puerto Rico.

Book Chapters

1. Zhang, H.X., Huang, L., Cai, W., & **Zou, Z.** (2023). "Towards Automated Quality Assurance: Generating Synthetic Images of Building Components for Vision-based Semantic Segmentation". In *Automation in Construction toward Resilience*, Taylor and Francis, pp. 139-156, CRC Press.

2. Cai, W., Huang, L., & **Zou, Z.** (2023). "Reinforcement Learning Based Robotic Motion Planning for Conducting Multiple Tasks in Virtual Construction Environments". In *Automation in Construction toward Resilience*. Taylor and Francis, pp. 43-56, CRC Press.

Poster Presentations

1. **Zou, Z.**, & Ergan, S. (2021). Classifying human experience in virtual environments using effective sensor signals. In *ANFA Academy of Neuroscience for Architecture Annual Conference*, September 16-18, La Jolla, California (online).

2. **Zou, Z.**, & Ergan, S. (2018). "Characterizing Human Experience in Stimulating Architectural Spaces: Integrating VR and Body Area Sensor Networks". In *ANFA Academy of Neuroscience for Architecture Annual Conference*, September 20-22, La Jolla, California.

3. **Zou, Z.**, & Du, J. (2016). "Real-time Synchronization of BIM Data in Virtual Reality for Collaborative Decision Making". In *CII Construction Industry Institute*, August 1 - August 4, National Harbor, Maryland.

TEACHING

Columbia University **New York, NY**
Department of Civil Engineering and Engineering Mechanics

1. CIENE 4256: Applied Machine Learning in Civil Engineering 2024-

   - Course description: This course provides theoretical backgrounds and applications of machine learning algorithms and their applications in the broader domain of civil engineering.

Session	Course Number	Class Size	Course Evaluation
2025 Spring	CIENE 4256	22	in progress

The University of British Columbia **Vancouver, BC, CANADA**
Department of Civil Engineering

1. CIVL 520: Construction Planning and Control 2021-2024

   - Course description: This course provides an in-depth view of the theory and practice of construction planning and control, with a particular focus on construction project scheduling.

2. CIVL 498-A: Applied Machine Learning for Construction and Facility Management 2021-2024

   - Course description: This course provides theoretical backgrounds and applications of machine learning algorithms and tools in civil engineering.

3. CIVL 300: Construction Engineering and Management 2023-2024

   - Course description: This course provides theoretical backgrounds of key construction management modules, including delivery methods, contracts, cost, schedules, safety, and sustainability.

Session	Course Number	Class Size	Course Evaluation
2024 Spring	CIVL 300	133	4.7/5
2023 Fall	CIVL 498A	35	4.3/5
2023 Fall	CIVL 520	23	4.9/5
2023 Spring	CIVL 498A	27	4.9/5
2022 Fall	CIVL 520	33	4.7/5
2022 Spring	CIVL 498A	25	4.8/5
2021 Fall	CIVL 520	23	4.1/5

MENTORED STUDENTS

Columbia University **New York, NY**
Department of Civil Engineering and Engineering Mechanics

Ph.D. Students

- Lei Huang (2024 -), Weijia Cai (2024 -), Christine Suen (2024 -)

B.S. Students

- Computer Science: Yolanda Zhu (2024 -), Ananya Sanivarapu (2025 -)

The University of British Columbia **Vancouver, BC, CANADA**
Department of Civil Engineering

Ph.D. Students

- Kangkang Duan (2022 -), Harry Zhang (2024 -)

M.A.Sc. Students

- Harry Zhang (2022 - 24), Christine Suen (2022 - 24), Rui Li (2022 - 24), Xuezheng Chen (2023 - 24)

B.A.Sc./B.Sc./B.A. Students

- Civil Engineering: Wahid Bitar (2022 - 23), Harry Zhang (2021 - 22)
- Computer Science: Rosaline Baek (2022 - 23), Zihan Zhu (2022 - 23), Qingyu Yan (2024 - 25)
- Material Science: Royce Zhang (2022 - 24)
- Arts: Aaron Yang (2022 - 24)

Visiting Ph.D. Students

- Kang Yang (2021 - 22), Yan Li (2022 - 23), Shuai Gao (2023 - 24), Fei Jiang (2023-24)

HONORS AND AWARDS

- Best Student Paper Award (with supervised UBC Ph.D. students Lei Huang and Weijia Cai) at Canadian Society for Civil Engineering (CSCE) Annual Conference, May 25-28, Whistler, BC, Canada, 2022
- Outstanding Dissertation Award, New York University, 2021
- Editor's Choice Award by Journal of Computing in Civil Engineering, New York University, 2019
- Inaugural class of Urban Doctoral Fellowship, New York University , 2018

INVITED TALKS

- Embodied AI for Construction. IEEE Vancouver Section, Vancouver, Canada. 2024
- Intelligent Construction with Robotics. University of Waterloo, Waterloo, Canada. 2023
- Construction robotics and its applications in construction engineering. Tongji University, Shanghai, China. 2022
- Applications of Virtual Reality for Work Zone Safety. C2SMART Center Learning Hub Lecture Series, New York University, Brooklyn, NY. 2021.
- Work Zone Safety: Behavioral Analysis with Integration of VR and Hardware in the Loop. C2SMART Center, New York University, Brooklyn, NY. 2021.
- Increasing work zone safety: Worker behavioral analysis with integration of wearable sensors and virtual reality. C2SMART Center, New York University, Brooklyn, NY. 2021.

SERVICES AND PROFESSIONAL AFFILIATIONS

University Service - Columbia Civil Engineering and Engineering Mechanics

- Chair of the Seminar Series Committee, 2025-

University Service - UBC Civil Engineering

- Equity, Diversity, and Inclusion Committee, 2023-2024
- Faculty Merit Review Committee, 2023-2024

- 3 Minute Thesis Competition Judge, 2023-2024

Professional Service

- Area Chair of the 42nd International Symposium on Automation and Robotics in Construction (ISARC 2025) Track: Automated/robotic machines, devices, and end-effectors
- Technical Program Committee member of ACM SenSys: Embedded Artificial Intelligence and Sensing Systems (Sensys 2025)
- Technical Program Committee member of ACM International Conference on Systems for Energy-Efficient Buildings, Cities, and Transportation (Buildsys 2024)
- Technical Co-Chair of ASCE International Conference on Computing in Civil Engineering (i3ce) 2024 Track: Artificial Intelligence and Data-driven Applications for Built-Environment Management
- Technical Co-Chair of ASCE International Conference on Computing in Civil Engineering (i3ce) 2023 Track: Big data and Machine Learning
- Technical Co-Chair for the ASCE Construction Research Congress (CRC) conference 2024. Track: Advanced Technologies and Data Analytics

Selected Journal Reviewer

- Advanced Engineering Informatics
- Automation in Construction
- Building and Environment
- Computer-Aided Civil and Infrastructure Engineering
- Computers in Industry
- IEEE Transactions on Automation Science and Engineering
- IEEE Transactions on Intelligent Transportation Systems
- Journal of Computing in Civil Engineering
- Journal of Construction Engineering and Management
- Journal of Management in Engineering

Selected Conference Reviewer

- International Symposium on Automation and Robotics in Construction (ISARC 2025)
- ACM SenSys: Embedded Artificial Intelligence and Sensing Systems (Sensys 2025)
- ACM International Conference on Systems for Energy-Efficient Buildings, Cities, and Transportation (Buildsys 2024)
- ASCE International Conference on Computing in Civil Engineering (i3ce 2025, 2024, 2023, 2019)

- ASCE Construction Research Congress (CRC 2024, 2020)
- ACM/IEEE Winter Simulation Conference (WSC 2022)
- Canadian Society for Civil Engineering Annual Conference (CSCE 2022)
- Transportation Research Board Annual Meeting (TRB 2021)

Professional Affiliations

- Association for Computing Machinery (ACM)
- American Society of Civil Engineers (ASCE)
- Visualization, Information Modeling, and Simulation (VIMS-ASCE)

OUTREACH ACTIVITIES

Invited Demos

- e@UBC: entrepreneurship at UBC 2023
- TRB 2020: Exhibition of University Transportation Center (UTC) 2020
- Skanska: 2nd Annual Con-Tech in Context 2019
- Research Expo @ NYU Tandon 2018, 2019
- New York City AR/VR Center Expo 2018
- PWC Technology Forum 2018
- ExxonMobil Poster Presentation 2017
- NYC MediaLab Exploring Future Reality 2017

K-12 STEM Outreach

- Applied Research Innovations in Science and Engineering (ARISE) 2017 - 2019

Public Outreach

- USA Science Engineering Festival Expo 2018