Khondhaker Al Momin, E.I.T.

Ph.D. Candidate
School of Civil Engineering & Environmental Science
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Education

- **Ph.D. in Civil Engineering** *June 2026*
  University of Oklahoma *Norman, Oklahoma*
  - Advisor: *Dr. Arif Mohaimin Sadri*
  - Dissertation: *A Multi-Scale Framework for Planning a Resilient, Equitable, and Economically Integrated Electrified Transportation System*
  - Key courses: *Hazard Mitigation & Community Resilience; Transportation Asset Management; Multimodal Transportation; Traffic Analysis, Design & Control; Spatial Statistics; Systems Optimization; Network Science; Network Optimization.*

- **M.S. in Civil Engineering (Transportation)** *Jan 2019 - Apr 2022*
  Bangladesh University of Engineering & Technology (BUET) *Dhaka, Bangladesh*
  - Advisor: *Dr. Md. Shamsul Hoque*
  - **Thesis**: *Framework Development for Road Crash Mitigation Measures Using Advanced Systematic Approach and Design Principles*
  - Key courses: *Traffic Simulation; Transportation Engineering Economics; Structural Design of Pavements; Geometric Design of Highways; Highway Materials; Air Pollution.*

- **B.S. in Civil Engineering** *Feb 2013 - Sep 2017*
  Bangladesh University of Engineering & Technology (BUET) *Dhaka, Bangladesh*
  - Advisor: *Dr. Tahsin Reza Hossain*
  - **Thesis**: *Performance Evaluation of Building Structure Designed using BNBC (2015) by Time History Analysis*
  - Key courses: *Transportation Planning and Traffic Engineering; Pavement Design and Railway Engineering; Engineering Economics; Structural Analysis and Design.*

Research Interests

- **Transportation Planning and Behavior:**
  - Electric Vehicle (EV) Adoption, Infrastructure Planning, and Economic Impacts
  - Travel Behavior Modeling and Mode Choice Analysis
  - Transportation Equity and Socioeconomic Factors
  - Agent Based Modeling
- **Traffic Operations and Safety:**
  - Traffic Flow Theory and Network Operations
  - Traffic Accident Analysis and Road Safety Management
  - Traffic Simulation
- **System Resilience and Risk Analysis:**
  - Transportation Network Resilience to Disasters
  - Human Behavior, Risk Communication, and Evacuation Modeling
- **Computational Methods in Transportation:**
  - Applied Data Science, Artificial Intelligence (AI), and Machine Learning
  - Spatial Statistics and Geospatial Analysis

Certifications & Licensure

- **Graduate Certificate in Data Science and Analytics** *Aug 2022 - Aug 2023*
  University of Oklahoma *Norman, Oklahoma*
  - *CGPA – 4.00/4.00*
  - Key courses: *Intelligence Data Analytics, Advanced Analytics and Metaheuristics, Fundamentals of Engineering Statistical Analysis*
  - *Value*: Acquired expertise in data wrangling, analysis, machine learning, deep learning, visualization, statistical modeling, and geospatial analysis.

- **Fundamentals of Engineering (FE) – Civil** *Passed: November 2025*
  National Council of Examiners for Engineering and Surveying (NCEES) *Norman, Oklahoma*
  - **Status:** Passed the NCEES *Fundamentals of Engineering (FE) – Civil* exam.
  - Next Step: Eligibility to take the *Principles and Practice of Engineering (PE)* exam after completing the required professional experience.
  - Key Areas: *Transportation, Structural, Geotechnical, Water Resources, Environmental, and Construction Engineering.*
  - *Value:* Demonstrates mastery of foundational civil engineering principles and readiness for professional engineering licensure.

Research and Publications

P=Patent, J=Journal, C=Conference, S=In Submission

Patents

[P.1] **Momin, K.A.**, Sadri, A.M. (2025). System and Method for Dynamic Assessment and Optimization of Disaster Evacuation Readiness. U.S. Provisional Patent Application No. 63/914,679, filed November 10, 2025.

[P.2] Sadri, A.M., **Momin, K.A.** (2025). Measuring and Identifying Information Divergence in Online Interactions. U.S. Provisional Patent Application No. 63/789,757, filed April 16, 2025.

Journal Articles

[J.1] **Momin, K.A.**, Sadri, A. M., and Muraleetharan, K. K. (2026). The green gridlock: Projecting the unintended wildfire evacuation risks of EV adoption. *Transportation Research Part D: Transport and Environment*, 153, 105219. https://doi.org/10.1016/j.trd.2026.105219 [SJR: Q1]

[J.2] **Momin, K.A.**, Sadri, A. M., Muraleetharan, K. K., Campos, R., and Harvey, P. S. (2025). Application of multi-criteria decision analysis for optimal siting of electric vehicle charging stations in Oklahoma. *Transportation Engineering*, 20, 100325. https://doi.org/10.1016/j.treng.2025.100325 [SJR: Q1]

[J.3] **Momin, K.A.**, Hamim, O. F., Hoque, M. S., and McIlroy, R. C. (2025). Integrating design and system approaches for analyzing road traffic collisions in low-income settings. *Accident Analysis & Prevention*, 214, 107965. https://doi.org/10.1016/j.aap.2025.107965 [SJR: Q1]

[J.4] **Momin, K.A.**, Sadri, A. M., Olofsson, K., Muraleetharan, K. K., and Gladwin, H. (2025). Information switching patterns of risk communication in social media during disasters. *IEEE Transactions on Big Data*, 0(0), 1–12. https://doi.org/10.1109/TBDATA.2024.3524828 [SJR: Q1]

[J.5] Kays, H. M., **Momin, K.A.**, Muraleetharan, K. K., and Sadri, A. M. (2025). Translating risk narratives in socio-technical systems into infrastructure utilization metrics during compounding hazard events. *Transportation Research Interdisciplinary Perspectives*. https://doi.org/10.1016/j.trip.2025.101361 [SJR: Q1]

[J.6] **Momin, K.A.**, Hasnine, M.S., and Sadri, A.M. (2025). Using social media to model community-based behavioral response during public health emergencies: A case study of the 2023 Canadian wildfires. Transportation Research Record, 0(0). https://doi.org/10.1177/03611981251394965. [SJR: Q2]

[J.7] **Momin, K.A.**, Kays, H. M. I., and Sadri, A. M. (2024). Identifying Crisis Response Communities in Online Social Networks for Compound Disasters: The Case of Hurricane Laura and COVID-19. *Transportation Research Record*, 2678(12), 599-617. https://doi.org/10.1177/03611981231168120 [SJR: Q2]

[J.8] Sakib, N., Paul, T., Ahmed, M. T., **Momin, K.A.**, and Barua, S. (2024). Investigating factors influencing pedestrian crosswalk usage behavior in Dhaka city using supervised machine learning techniques. *Multimodal Transportation*, 3(1), 100108. https://doi.org/10.1016/j.multra.2023.100108 [SJR: Q1]

[J.9] Sakib, N., Paul, T., Ahmed, M. T., **Momin, K.A.**, and Barua, S. (2024). Dataset on factors influencing pedestrian crosswalk usage behavior in high-density urban areas of a developing country. *Data in Brief*, 57, 110912. https://doi.org/10.1016/j.dib.2024.110912 [SJR: Q1]

[J.10] Ahsan, M. M., Uddin, M. R., Ali, M. S., Islam, M. K., Farjana, M., Sakib, A. N., **Momin, K.A.**, and Luna, S. A. (2023). Deep transfer learning approaches for Monkeypox disease diagnosis. *Expert Systems with Applications*, 216, 119483. https://doi.org/10.1016/j.eswa.2022.119483 [SJR: Q1]

[J.11] Faysal, R. M., Bhuiyan, M. M. H., **Momin, K.A.**, Tafsirojjaman, T., and Liu, Y. (2023). A review on the advances of the study on FRP-Concrete bond under hygrothermal exposure. *Construction and Building Materials*, 363, 129818. https://doi.org/10.1016/j.conbuildmat.2022.129818 [SJR: Q1]

[J.12] **Momin, K.A.**, Barua, S., Hamim, O. F., and Roy, S. (2022). Modeling the behavior in choosing the travel mode for long-distance travel using supervised machine learning algorithms. *Communications*, 24(4), 187–197. https://doi.org/10.26552/com.C.2022.4.A187-A197 [SJR: Q3]

Conference Proceedings

[C.1] **Momin, K.A.**, Kays, H. M., Sadri, A. M. (2025). Modeling EV adoption potential using public perception and infrastructure accessibility. In International Conference on Transportation and Development 2025. American Society of Civil Engineers. pp. 286–299. https://doi.org/10.1061/9780784486207.025

[C.2] Kays, H. M., **Momin, K.A.**, Chowdhury, M. S., Sadri, A. M., Muraleetharan, K. K. (2025). Predicting long-term urban traffic patterns under varying weather conditions with AI. In International Conference on Transportation and Development 2025. American Society of Civil Engineers. pp. 580–592. https://doi.org/10.1061/9780784486207.050

[C.3] Sakib, N., Ahmed, I., and **Momin, K.A.** (2025). Factors affecting bicycling experience in a developing country. *AIP Conference Proceedings*, 3262(1), 020020. https://doi.org/10.1063/5.0247164

[C.4] Sadri, A. M., Sadri, A. M., **Momin, K.A.**, Kittur, J., and Rouf, T. (2024). Identifying educational communication patterns through social media interactions: The case of engineering education in Oklahoma. *Proceedings of the Future of Engineering Education 2024 ASEE (American Society for Engineering Education) Annual Conference*, June 23–26, 2024, Portland, Oregon, USA. https://peer.asee.org/47545

[C.5] Tobias, A. G., Kittur, J., **Momin, K.A.**, Rouf, T., and Sadri, A. M. (2024). Bridging the gap: The impact of social media on modern engineering education—A systematic literature review. *Proceedings of the Future of Engineering Education 2024 ASEE (American Society for Engineering Education) Annual Conference*, June 23–26, 2024, Portland, Oregon, USA. https://peer.asee.org/48416

[C.6] **Momin, K.A.**, Kittur, J., Rouf, T., and Sadri, A. M. (2023). Exploring the use of social media in engineering education—Preliminary findings from a systematic literature review. *Proceedings of the 2023 ASEE (American Society for Engineering Education) Annual Conference & Exposition*, June 25–28, 2023, Baltimore, Maryland, USA. https://peer.asee.org/43653

[C.7] **Momin, K.A.**, Barua, S., Jamil, M. S., and Hamim, O. F. (2023). Short duration traffic flow prediction using Kalman filtering. *AIP Conference Proceedings*, 2713(1), 040011. https://doi.org/10.1063/5.0129721

[C.8] **Momin, K.A.** and Hamim, O. F. (2022). Pavement management system using deflection prediction model of flexible pavements in Bangladesh. *Proceedings of Advances in Civil Engineering. Lecture Notes in Civil Engineering*, Springer Singapore, pp. 363–370. https://doi.org/10.1007/978-981-16-5547-0_34

Submitted/Under-review Journal Articles

[S.1] **Momin, K.A.**, Sadri, A.M., and Hasnine, M.S. (2025). Leveraging social media data to identify factors influencing public attitude towards accessibility, socioeconomic disparity, and public transportation. *Public Transport*. [SJR: Q1]

[S.2] Sun Y., **Momin, K.A.**, Zhang, A., Sadri, A.M. (2025). Reevaluating Hurricane Evacuation Zones through Community Resilience: Insights from Social Media Engagement. *Risk Analysis*. [SJR: Q1]

Grants & Proposal Writing

- **Sponsor:** NSF EPSCoR S^3OK (Socially Sustainable Solutions for Water, Carbon and Infrastructure Resilience in Oklahoma) — Sustainable Infrastructure (SI) Seed Grant
  Title: Towards a Socially Sustainable & Economically Feasible Electrified Transportation Infrastructure for Oklahoma.
  Team: PI — Dr. Arif Mohaimin Sadri; Co-PIs — Dr. K. K. Muraleetharan, Dr. Richa Bhattarai, Khondhaker Al Momin.
  Role: Co-PI (10%) **Outcome: Awarded**
  Amount: $75,000 Period: *12/01/2025 – 06/30/2026*

- **Sponsor:** Southern Plains Transportation Center (SPTC) — Cycle 3 Research Program
  Title: Developing a Sustainable Business Case for Electric Vehicle Charging Infrastructure in Rural Oklahoma.
  Team: PI — Dr. Arif Mohaimin Sadri; Co-PIs — Dr. Dominique Pittenger, Khondhaker Al Momin.
  Role: Co-PI (10%); **Outcome: Awarded**
  Amount: $65,000 Period: *01/15/2026 – 01/14/2027*

Research Experience

- **Transportation, Risk and Information Commons (TRICS) Lab** *May 2022 - Present*
  School of Civil Engineering & Environmental Science, University of Oklahoma Graduate Research Assistant
  Advisor: **Dr. Arif Mohaimin Sadri**

  The Transportation, Risk, and Information Commons (TRICS) Lab, directed by Dr. Arif Mohaimin Sadri at the School of Civil Engineering & Environmental Science, University of Oklahoma, focuses on the critical interdependence of transportation systems with social and other physical systems (e.g., electric grid, gas, water network), particularly in the context of natural and human-made hazards. TRICS lab develops data-driven and network-based solutions to enhance bottom-up resilience in complex, interdependent systems.

  ◦ Guided and mentored 2 undergraduate and 3 MSc students involved in TRICS lab research projects.

Funded Project Works

◦ Socially Sustainable Solutions for Water, Carbon, and Infrastructure Resilience in Oklahoma (S^3OK). Funding for this project was provided by the US National Science Foundation (NSF) under Grant No. OIA-1946093 through OK NSF EPSCoR.

◦ Risk-Sharing Communication Networks for Compound Disasters. Funding for this project was provided by the US National Science Foundation (NSF) under Grant No. BCS-2339100.

◦ Trust Formation and Risk Communication in Underserved Communities during Compound Hazard Events through Online and Offline Social Networks (TRUCHE). Funding for this project was provided by the US National Science Foundation (NSF) under Grant No. CNS-2229439

◦ Risk Mapping of Interdependent Social and Physical Infrastructure Networks in Oklahoma (I-SPIN-OK). Funding for this project was provided by the US National Science Foundation (NSF) under Grant No. OIA-1946093 through OK NSF EPSCoR.

• **Department of Civil Engineering** *January 2021 - April 2022*
Bangladesh University of Engineering & Technology (BUET) Research Assistant
Advisor: **Dr. Md. Shamsul Hoque**

I worked on the Sociotechnical Approach to Road Safety (STARS) project under the supervision of Dr. Md. Shamsul Hoque. We developed a comprehensive framework for road crash mitigation using advanced systematic approaches and design principles tailored to the specific challenges of low- and middle-income countries (LMICs). My Master's thesis is based on this project, which focused on developing actionable safety measures to reduce the number and severity of road accidents in LMICs.

Funded Project Works

◦ Sociotechnical Approach to Road Safety (STARS). Funding for this project was provided by the National Institute for Health Research (NIHR), United Kingdom. The STARS project, directed by Professor Neville Stanton at the University of Southampton, U.K., received a total funding of £2,316,018.29 under Award ID: 16/137/122.

Teaching Experience

• **School of Civil Engineering & Environmental Science** *Spring 2023 - Spring 2026*
University of Oklahoma Graduate Teaching Assistant
Co-taught with Primary Instructor: **Dr. Arif Mohaimin Sadri**

Courses: *CEES 3883 - Transportation Engineering, CEES 4883 - Traffic Analysis, Design & Control and CEES 5020- AI in Civil Engineering and Environmental Science*

◦ **Awarded competitive Dolese Teaching Fellowship** (2025–2026) to integrate Artificial Intelligence (AI) into *CEES 4883: Traffic Analysis, Control and Design* and to develop a new graduate course, *CEES 5020: AI In Civil Engineering & Environmental Science*.

◦ **Teaching Evaluations:** Demonstrated consistently strong teaching effectiveness, receiving an overall score of **4.36/5.00** for *CEES 3883* (Spring 2025) and improving to a perfect **5.00/5.00** for *CEES 4883: Traffic Analysis, Design & Control* (Fall 2025) in end-of-semester anonymous student evaluations.

Duties

◦ Spearheaded course development as a Dolese Teaching Fellow, designing a new graduate course (CEES 5020: AI In Civil Engineering & Environmental Science) and integrating AI modules into the undergraduate Traffic Analysis curriculum.

◦ Co-taught core courses by delivering guest lectures, developing supplementary course materials, and leading hands-on lab sessions for *CEES 3883 (Transportation Engineering)* and *CEES 5020 (Traffic Analysis)*.

◦ Managed course administration and student evaluation, including grading assignments, holding targeted office hours, and providing constructive feedback to help students overcome conceptual challenges.

• **Department of Civil Engineering** *September 2018 - April 2022*
Daffodil International University (Dhaka, Bangladesh) Senior Lecturer
Primary Instructor: **Mr. Khondhaker Al Momin**

Courses: *CE 351 - Transportation Engineering I, CE 352 - Transportation Engineering Lab I, CE 451 - Transportation Engineering II, CE 452 - Transportation Engineering Lab II, CE 104 - Surveying Lab, CE 100 - Civil Engineering Drawing, CSE 202 - Numerical Analysis & Computer Programming*

Duties

- Prepared and delivered lectures, course materials, and assignments.
- Taught and mentored over 500 students in 4 years, reshaping course content to align with modern technologies and industry trends.
- Guided students in selecting appropriate courses for their career goals and supported their academic achievements.
- Developed lab manuals for undergraduate students.
- Mentored students on class projects, multiple undergraduate theses, and academic and career pursuits.
- Collaborated with the management department to determine human resource and skill requirements for various employment positions.

• **Department of Civil Engineering** *January 2018 to September 2018*
University of Global Village (Barisal, Bangladesh) Lecturer

Primary Instructor: **Mr. Khondhaker Al Momin**

Courses: *CE 101 - Engineering Mechanics, CE 313 - Structural Analysis I, CE 351 - Transportation Engineering*

Duties

- Prepared and delivered lectures, course materials, and assignments.
- Taught and mentored over 100 students and guided them for their career goals and supported their academic achievements.
- Mentored students on class projects.

Fellowships & Awards

2025 **Best Paper Award**; 2025 Oklahoma Transportation Research Day. Acknowledged for significant contributions to transportation research. University of Central Oklahoma, Edmond, OK. October 14, 2025.

2025 **Best Paper Award (2nd Place)**; 2025 Oklahoma Transportation Summer Symposium. Recognized for high-impact research and effective scholarly communication. OSU Hamm Institute for American Energy, Oklahoma City, OK. July 29, 2025.

2025–2026 **Dolese Teaching Fellowship** ($25,000); Gallogly College of Engineering, University of Oklahoma. A competitive fellowship awarded to ten graduate students for demonstrated excellence and commitment to the college's teaching mission.

2024–2025 **Nettie Vincent Boggs Graduate Fellowship** for outstanding research and academic record in the College of Engineering at the University of Oklahoma.

2024–2025 GSS Travel Grant, Graduate Student Senate, University of Oklahoma, for presenting research at the International Conference on Transportation and Development (ICTD, 2024).

2024–2025 Access Scholarship, Office of Global Engagement, University of Oklahoma, based on academic achievement and commitment to international activities at the University of Oklahoma.

2023–2024 Gallogly College of Engineering Scholarship for outstanding academic record in the College of Engineering at the University of Oklahoma.

2023–2024 **Oklahoma Traffic Engineering Association (OTEA) Scholarship** based on academic performance in Traffic and Transportation Engineering at the University of Oklahoma.

2023–2024 Robberson Travel Grant for presenting research at Transportation Research Board (TRB) 102nd Annual Meeting 2023.

2023–2024 **Betsy Douglass and Millar B. White Jr. Endowed Scholarship and Mote Endowed Engineering Scholarship** for outstanding academic record in the Gallogly College of Engineering, University of Oklahoma.

Conference & Symposium Presentation

- **2025 Oklahoma Transportation Research Day**
  October 14, 2025, Edmond, Oklahoma, USA — Poster Presentation
  - The Green Gridlock: Modeling the Unintended Wildfire Evacuation Risk of Electric Vehicle Adoption.

- **2025 Fall MOVITE (ITE Missouri Valley District) Meeting**
  October 01-03, 2025, Des Monies, Iowa, USA — Podium Presentation
  - The Green Gridlock: Modeling the Unintended Wildfire Evacuation Risk of Electric Vehicle Adoption.

- **2025 Oklahoma Transportation Summer Symposium**
  July 29, 2025, Oklahoma City, Oklahoma, USA — Poster & Podium Presentation
  - Modeling EV Adoption Potential Using Public Perception and Infrastructure Accessibility

- **International Conference on Transportation and Development (ICTD 2025)**
  June 8-11, 2025, Glendale, Arizona, USA. — Podium Presentation
  - Modeling EV Adoption Potential Using Public Perception and Infrastructure Accessibility
  - Assessing Spatial Accessibility and Socio-Demographic Disparities in EV Charging Infrastructure
  - Predicting Long-Term Urban Traffic Patterns under Varying Weather Conditions with AI

- **2025 MOVITE (Missouri Valley District) and SDITE (Southern District) Joint Meeting**
  April 13-16, 2025, Memphis, Tennese, USA — Poster Presentation
  - Application of multi-criteria decision analysis for optimal siting of electric vehicle charging stations in Oklahoma.

- **104th Transportation Research Board (TRB) Annual Meeting**
  January 5–9, 2025, Washington, D.C, USA — Poster Presentation
  - Information switching patterns of risk communication in social media during disasters

- **2024 Fall MOVITE (ITE Missouri Valley District) Meeting**
  October 15-18, 2024, Manhattan, Kansas, USA — Poster Presentation
  - Robust Site Selection for Electric Vehicle Charging Stations using Multi-Criteria Decision Analysis

- **2024 Oklahoma Transportation Research Day**
  October 15, 2024, Oklahoma City, Oklahoma, USA — Poster Presentation
  - Information Switching Patterns of Risk Communication in Social Media during Disasters

- **2024 Oklahoma Transportation Summer Symposium**
  July 30, 2024, Oklahoma City, Oklahoma, USA — Poster & Podium Presentation
  - Assessing Spatial Accessibility and Socio-Demographic Disparities in Electric Vehicle Charging Infrastructure
  - Multi-Criteria Decision Analysis for Robust Locations of Electric Vehicle Charging Stations

- **49th Annual Natural Hazards Research and Applications Workshop**
  July 14-17, 2024, Boulder, Colorado, USA — Podium Presentation
  - Understanding the Social Media Information Switching Behavior During Compound Disasters

- **International Conference on Transportation and Development (ICTD 2024)**
  June 15-18, 2024, Atlanta, Georgia, USA. — Poster Presentation
  - Leveraging Social Media Data to Study Social Equity in Transportation
  - Community Based Behavioral Understanding of Crisis Activity Concerns during 2023 Canadian Wildfires
  - Data-driven Resilience Model of Roadway Directionality Configuration based on Topological Credential

- **103rd Transportation Research Board (TRB) Annual Meeting**
  January 7–11, 2024, Washington, D.C, USA — Poster Presentation
  - Translating Social Media Crisis Narratives into Road Network Utilization Metrics: The Case of 2020 Oklahoma Ice Storm.

- Community-based Behavioral Understanding of Crisis Activity Concerns using Social Media Data: A Study on the 2023 Canadian Wildfires in New York City.
- A Data-driven Resilience Framework of Directionality Configuration based on Topological Credentials in Road Networks.

- **2023 Oklahoma Transportation Research Day**
  October 17, 2023, Oklahoma City, Oklahoma, USA Poster Presentation
  - Community-based Behavioral Understanding of Crisis Activity Concerns using Social Media Data: A Study on the 2023 Canadian Wildfires in New York City

- **2023 Fall MOVITE (ITE Missouri Valley District) Meeting**
  October 04-06, 2023, Bentonville, Arkansas, USA

- **48th Annual Natural Hazards Research and Applications Workshop**
  July 11-14, 2023, Boulder, Colorado, USA Podium Presentation
  - Risk Mapping of Interdependent Social and Physical Infrastructure Networks for Multi-Hazard Events
  - Identifying Critical Decision Trees of First Responders in Underserved Communities During Disasters

- **102nd Transportation Research Board (TRB) Annual Meeting**
  January 8–12, 2023, Washington, D.C, USA Poster Presentation
  - Identifying Crisis Response Communities in Online Social Networks for Compound Disasters: The Case of Hurricane Laura and Covid-19
  - Evaluating University Students' Safety Behavior on Three-Wheel Electric Rickshaw.

- **2022 Oklahoma Transportation Research Day**
  October 18, 2022, Oklahoma City, Oklahoma, USA Poster Presentation
  - Leveraging social media data to identify factors influencing public attitude towards accessibility, socioeconomic disparity and public transportation

- **47th Annual Natural Hazards Research and Applications Workshop**
  Virtual Meeting - July 13-14, 2022 Oral Presentation
  - Identifying Hurricane Laura Crisis Response Communities in Online Social Networks

Professional Service

Committee Membership

2025–Present Member, ASCE Transportation & Development Institute (T&DI) – Sustainable Transportation Committee. Contributing to committee discussions, collaborative research, and initiatives advancing sustainable and resilient transportation systems.

2026–Present Corresponding Member, ASCE Transportation & Development Institute (T&DI) – Transportation Safety Committee. Participating in committee activities, technical discussions, and collaborative initiatives related to transportation safety research and practice.

Journal Reviewer

As an active peer reviewer for leading international journals and conference proceedings, I have completed **50+ peer reviews** across **14 journals and conference venues**. My reviewing activities span transportation engineering, disaster risk reduction, information systems, and human behavior research. My reviews emphasize methodological rigor, reproducibility, and the practical relevance of theoretical insights to engineering and management applications. *Complete verified peer-review record: ORCID 0000-0002-4548-9837*

2025–Present Reviewer, Scientific Reports (Nature Publishing Group). Reviewed manuscripts on AI-enabled public health systems and geospatial data-driven modeling, including federated learning and graph neural network applications.

2025–Present Reviewer, Green Technologies and Sustainability. Reviewed submissions on sustainable transportation systems, EV charging infrastructure planning, and hybrid GIS–MCDM methodologies.

2025–Present Reviewer, International Journal of Information Management Data Insights. Reviewed a methodological submission on natural language processing and information extraction in disaster communication, emphasizing data augmentation, class imbalance, and empirical validation.

2025–Present Reviewer, Information & Management. Reviewed theoretical and applied research on information systems design, implementation, and management, focusing on methodologies, managerial strategies, and organizational information policies.

2024–Present Reviewer, International Journal of Disaster Risk Reduction. Reviewed research on disaster risk reduction, focusing on vulnerability analysis, resilience strategies, and interdisciplinary approaches.

2024–Present Reviewer, Sustainable Cities and Society. Reviewed submissions on sustainable urban development, smart cities, and resilient infrastructure systems.

2024–Present Reviewer, Computers in Human Behavior Reports. Reviewed research on human-computer interaction, user experience, and the societal impacts of digital technologies.

2023–Present Reviewer, Journal of Information Science. Reviewed research focused on information management, theoretical frameworks, and applied methodologies.

2023–Present Reviewer, Social Sciences & Humanities Open. Reviewed submissions addressing transportation-related social science topics and interdisciplinary perspectives.

2022–Present Reviewer, Transportation Research Record: Journal of the Transportation Research Board. Reviewed papers on transportation policy, planning, operations, safety, and design.

2022–Present Reviewer, Transportation Research Interdisciplinary Perspectives.Reviewed policy-oriented studies, innovative methodologies, and interdisciplinary research.

2022–Present Reviewer, Transportation Research Board Annual Meeting. Reviewed submissions on transportation equity, resilience, and infrastructure vulnerability.

Skills

Traffic & Design SUMO, Synchro, Simtraffic, Vissim, PC-Warrants, NetLogo, MATSim.

Data Analysis Python (Expert; Pandas, Scikit-learn, NumPy, NetworkX), R, MATLAB, Machine Learning, Generative AI, Statistical Modeling.

Spatial Analysis ArcGIS Pro (Expert), QGIS.

Domain Expertise Transportation Network Resilience, Wildfire Evacuation, Multi-Criteria Decision Analysis, System Optimization, Spatial Statistics, Disaster Response Modeling.

Technical Tools LaTeX, Microsoft Office Suite (incl. Visio), SPSS, STATA, AutoCAD

Professional Skills Research Project Management, Technical Writing & Documentation, Public Speaking & Presentations, Stakeholder Communication, Grant Proposal Writing.

Professional Membership

Institute of Transportation Engineers (ITE)

2022–Present Student Member. As a member of ITE, I am dedicated to the field of transportation engineering, and value the opportunities to learn, connect with peers, and develop professionally that ITE provides.

American Society of Civil Engineers (ASCE)

2022–Present Student Member. As an ASCE student member, I am inspired by the transformative impact of civil engineering on society. I value ASCE's commitment to fostering innovation, providing access to cutting-edge research, and offering unique opportunities for leadership and collaboration in the field.

American Society for Engineering Education (ASEE)

2022–Present Student Member. As a student member of ASEE, I engage with the engineering education community, stay informed about the latest developments in the engineering education field, and benefit from resources that enhance my professional growth.

Institute for Operations Research and Management Sciences (INFORMS)

2023–Present Student Member. As a student member of INFORMS, I have the opportunities to deepen my understanding of the field of operations research and analytics, connect with like-minded peers, and develop professionally through access to various resources and events offered by the organization.

Leadership & Extracurricular Activities

Institute of Transportation Engineers (ITE) University of Oklahoma Student Chapter

2025–2026 **Vice President.**

2023–2025 **President.** The Institute of Transportation Engineers (ITE) is a global association of transportation professionals committed to advancing knowledge and practices in the field. Established in 1930, ITE has played a pivotal role in promoting safe, efficient, and sustainable transportation systems through professional development, research, and networking opportunities for its members.

Faculty Advisor: Dr. Arif Mohaimin Sadri.

Duties:

- Planned and conducted workshops and seminars on advanced topics in transportation engineering research, facilitating knowledge sharing and skill development among chapter members and the broader academic community.
- Fostered collaboration with industry professionals and academic experts by organizing networking events, guest lectures, and panel discussions, enhancing the chapter's engagement with the global ITE community and providing members with valuable industry insights and career opportunities.

INFORMS University of Oklahoma Student Chapter

2024–2025 **Webmasters.** The Institute for Operations Research and the Management Sciences (INFORMS) is a global organization that brings together practitioners in the disciplines of operations research, management science, and analytics.
Faculty Advisor: Professor Kash Barker.

Duties:

- Manage and update the INFORMS OU student chapter website to ensure accurate and timely information.
- Collaborate with the executive board to promote events, activities, and announcements on the website.

Students Association of Bangladesh (SAB) at the University of Oklahoma

2024–2025 **Vice President.**

2022–2023 **General Secretary.** The Students Association of Bangladesh (SAB) is a vibrant organization committed to building a strong community and promoting cultural pride among Bangladeshi students. SAB provides a supportive network for its members, fosters cultural awareness, and enriches the student experience through diverse social, educational, and cultural programs.
Faculty Advisor: Professor Mohammed Atiquzzaman.

Duties:

- Oversee the administration and operations of the Students Association of Bangladesh (SAB).
- Coordinate and organize meetings, events, and activities for SAB members.
- Maintain and manage official records, minutes, and documentation of SAB activities.

- Act as the primary point of contact between SAB members and external organizations.