Subasish Das, Ph.D. — CURRICULUM VITAE

Assistant Professor, Civil Engineering
Director, Artificial Intelligence in Transportation (AIT) Lab
Texas State University
Co-founder and Chief Project Advisor, ATX Science (Startup Company)
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Dr. Subasish Das, director of Artificial Intelligence in Transportation (AIT) Lab, is an Assistant Professor of Civil Engineering at Texas State University whose research advances roadway safety, traffic operations, and connected and automated vehicles using data-intensive methods spanning advanced statistical modeling, AI, web-GIS, visualization, and decision support tools.

- **Research Experience and Funding:** Served as an Associate Research Scientist at the Texas A&M Transportation Institute (2015–2022) in a research-intensive, faculty-equivalent role, leading more than $3M in sponsored projects, including work tied to the Highway Safety Manual (HSM) and Highway Capacity Manual (HCM). Overall has led more than $7M in sponsored research as PI/Co-PI (over $4.2M since 2022 at Texas State University), including five National Academies projects as PI. Filed 5 patents and started a startup company (ATX Science) in 2022.
- **Research Interests:** The overarching research vision is to build a safer, smarter, and more sustainable transportation ecosystem. Key research thrust areas: (i) Causal and Responsible AI in Transportation, (ii) Emerging Technologies, (iii) Transportation Safety, (iv) Safe System, Policy, and Public Health and (v) Advanced Computational Theory and Applications.
- **Publications:** 400+ publications, including peer-reviewed journal articles, conference papers, technical reports, two CRC Press books (2022, 2025), and two upcoming solo-authored books (2026 [CRC Press], 2027 [Elsevier]).
- **Scholarly Impact:** 13,491 citations, h-index = 43, $i10$-index = 161. Included in Elsevier published Top 2% Scientists in the World (2022, 2023, 2024, 2025). G Link
- **Teaching Experience:** Four years of classroom teaching experience in courses such as Highway Engineering, Advanced Safety Engineering, Traffic Engineering, and AI in Civil Engineering, with an overall student evaluation rating above 4.2/5. More than 12 years of experience in workshops, professional training, and core competency development.
- **National and Professional Service:** Extensive professional service across key national entities, including TRB standing committees, multiple NCHRP/ACRP project panels, and leadership roles within ITE's Data-Driven Safety Analysis community. Significant editorial portfolio spanning editor positions for leading transportation and safety journals, complemented by active departmental and college service and advising/launching student organizations.
- **Lab Leadership:** AIT Lab serves as a multidisciplinary hub integrating AI, transportation engineering, and public health, mentoring undergraduate, M.S., and Ph.D. students on high-impact, externally funded projects.

EDUCATION

Ph.D.	**Systems Engineering (Civil Engineering Focus)**, University of Louisiana at Lafayette, LA (2015) Dissertation: Effectiveness of Inexpensive Crash Countermeasures to Improve Traffic Safety
M.S.	**Civil Engineering**, University of Louisiana at Lafayette, LA (2012) Thesis: Evaluating Safety Improvement from Edge Lines on Rural Two-lane Highways
B.Sc.	**Civil Engineering**, Bangladesh University of Engineering & Technology (BUET), Dhaka (2007) Thesis: Scope of Intelligent Transportation Systems in the Developing Countries

PROFESSIONAL APPOINTMENTS

2022–present	**Assistant Professor**, Civil Engineering, Texas State University, San Marcos, TX
2015-2022	**Assistant/Associate Research Scientist**, Texas A&M Transportation Institute, Bryan, TX
2010-2015	**Research Assistant/Research Fellow**, University of Louisiana at Lafayette, LA
2008-2010	**Quantity Surveyor**, Hennessey LLC, Dubai, U.A.E.
2007-2008	**Project Engineer**, Mak Estate Developments, Dhaka, Bangladesh

AWARDS

2025 Presidential Distinction Award, College of Science and Engineering, Texas State University
2025 Research Big Spender Award, Texas State University
2025 Research Millionaire Award, Texas State University
2024 Research Millionaire Award, Texas State University
2018 Texas A&M Transportation Institute (TTI) Young Researcher Award
2017 Best of Urban Street Symposium Award, TRB 5th Urban Street Symposium
2016 Atlas/TTI Competitive Research Program Award
2015 Eno Leadership Development Fellow
2015 Gulf Region ITS (GRITS) Scholarship
2015 Best Paper Award (2nd Place), University of Louisiana Graduate Research STEM Core
2015 Data Incubator Data Science Fellowship, Semi-finalist
2014 SASHTO Outstanding Graduate Research Award
2014 AASHTO High-Value Research Sweet Sixteen Award
2013 Gulf Region ITS (GRITS) Scholarship, First Place Award
2012 Travel Award, 9th Postgraduate Academic Forum, Beihang University, China
2012 University of Louisiana Engineering Designing Leader
2011–2014 Deep South Institute of Transportation Engineers Scholarship

LICENSES/CERTIFICATES

2016 Reasoning, Data Analysis, and Writing Specialization Certificate, Duke University
2014 Data Science Specialization Certificate, Johns Hopkins University

PROFESSIONAL SERVICE ACTIVITIES

2019–2020 Member, Association of Pedestrian and Bicycle Professionals (APBP)
2015–2016 Vice Chair for Membership, Young Professionals in Transportation (YPT) Houston Chapter
2014– Member, Gulf Region Intelligent Transportation Society
2012– Associate Member, American Society of Civil Engineers (ASCE)
2011– Member, Institute of Transportation Engineers (ITE)

COMMITTEE MEMBERSHIPS

2025–2028 Member, TRB Standing Committee on Integrated Transportation Safety Management (ACD11)
2023–2025 Panel Member, NCHRP 23-39: Strategies for Construction Inspector Career Paths in State Transportation Agencies (STAs) for Retaining and Advancing Capabilities
2023–2025 Panel Member, NCHRP 19-24: Guide for Implementing Price Escalation to Balance Risk Sharing in DOT Construction Projects
2023–2025 Panel Member, NCHRP 08-177: Digitizing Bicycle and Pedestrian Treatments for Promoting Active Transportation Equity and Safety
2022–2024 Chair, Liaison and Technology Transfer Subcommittee, Data-Driven Safety Analysis Committee, ITE
2022–2024 Panel Member, ACRP 03-69: Identifying Congestion and Safety Risks Due to Heterogeneous Airport Curbside Activity and Remedial Solutions
2022–2024 Panel Member, NCHRP 05-26: Development of an Updated Warranting System for Roadway Lighting
2022–2024 Panel Member, NCHRP 08-172: Benefit Analysis of Private Health Sector Investments in Public/Human Transportation
2022–2023 Panel Member, NCHRP 08-141: Guidance for Local Truck Parking Regulations
2021–2023 Panel Member, ACRP 11-03/Topic S03-16: State Aviation Funding: Project Prioritization and Selection Processes
2020–2023 Member, Information and Knowledge Management (AJE45)
2020–2023 Member, Artificial Intelligence and Advanced Computing Applications (AED50)
2019–2021 Member, Impairment in Transportation (ACS50)
2016–2020 Member, Library and Information Science for Transportation (ABG40)
2019–2021 Member, Data-Driven Safety Analysis (DDSA) Subcommittee

2019–2021 Panel Member, NCHRP 23-03: Targeted Guidance and Information Support to State DOT CEOs on Cybersecurity Issues and Protection Strategies

2018–2021 Panel Member, NCHRP 08-120: Initiating the Systems Engineering Process for Rural Connected Vehicle Corridors

SERVICE

2022-present Search Committee member for Tenure-Track Assistant Professor (Electrical Engineering Program); Research Committee member; Personnel Committee member; Scholarhip Committee member

2022-present ITE Faculty Advisor, Texas State University.

2022-present Coordinator for establishing ITE and ITS Student Chapters at Texas State University.

2018-2022 Editorial Member, *IATSS Research* (Elsevier).

2019- present Associate Editor, *Frontiers in Future Transportation*.

2019-present Area Editor (Highway Safety & Crash Data Analysis), *Journal of Transportation Safety & Security* (Taylor & Francis).

2019-present Editorial Board Member, *Transportation Research Interdisciplinary Perspectives* (Elsevier).

2019 Committee Member, 7th International Conference on Geology Resource Management and Sustainable Development (ICGRMSD 2019), Beijing, China.

2015-present Reviewer: *Accident Analysis & Prevention*; *Nature Energy*; *Transportation Research Part C: Emerging Technologies*; *Journal of Safety Research*; *Cities*; *Transportmetrica A: Transportation Science*.

2012-2015 Treasurer, ITE Student Chapter, University of Louisiana at Lafayette.

FUNDING

As PI/Co-PI

As PI/Co-PI, led projects totaling over $7 million; since joining TXST in 2022, secured around $4.2 million in funding.

- **State DOT Projects:** 22; TxDOT: 17; MnDOT: 2; MDOT: 1; LaDOTD: 1; NJDOT: 1; [Total: $2.8M]
- **NASEM Projects:** 6; 5 as PI (NCHRP 17-113; NCHRP 17-134; NCHRP 56-05; BTSCRP BTS-39; BTSCRP BTS-42; 1 as Co-PI (NCHRP 17-133); [Total: $1.7M]
- **USDOT Projects:** 7; 4 as PI, 3 as Co-PI [Total: $1.1M]
- **FRA Projects:** 2; 2 as PI [Total:$0.52M]
- **FHWA Projects:** 3; 3 as PI [$0.46M]
- **AAA Foundation of Safety Projects:** 2; 2 as Co-PI [Total: $165,000]
- **NSF Project:** 1; 1 as PI [Total: $61,000]
- **Other Agencies:** 8; 6 as PI, 2 as Co-PI [Total: $261,000]

2027–2028 **(PI–TXST)** Examining the Pre-Crash Circumstances Leading to Pedestrian Fatalities, AAA Foundation ($105,004)

2026–2028 **(PI)** BTSCRP BTS-42: Guidelines for Authorizing, Implementing, and Operating Automated Traffic Enforcement Programs, National Academies of Sciences, Engineering, and Medicine ($450,000) [with JHU and Exponent]

2026–2027 **(PI–TXST)** TxDOT 0-7259: Perform Assessment of TxDOT Safety Scoring Tools to Determine Effectiveness and Calibration, TxDOT ($70,008)

2026–2027 **(PI–TXST)** TxDOT 0-7275: Cost Effective Roundabouts: Evaluate Options for Reducing Roundabout Footprints and Construction Costs, TxDOT ($40,007)

2026 **(PI)** Role of emerging transportation technologies and safety initiatives in mitigating crashes in coastal communities, USDOT (UTC CREATE) ($79,909)

2025-2026 **(PI)** TinyVision-SLM: An On-Device Vision–Language Model for Real-Time Traffic Scene Understanding and Safety Alerts, BIAP, TXST ($5,000)

2026 **(PI)** Sheaf-Theoretic Identifiability in Technology-Enhanced Multi-Sensor Safety Infrastructure, REP, TXST ($12,000)

2025-2026 **(PI)** AVLocal: Safe AV Maneuvers on Local Roads, FIAP, TXST ($11,000)

2025 **(PI)** PedSense: Alerting Pedestrians while Crossing Roads or Rail Grade Crossing, FIAP, TXST ($11,000)

2025–2026 **(PI–TXST)** TxDOT 0-7274: Synthesis on Evaluate Effectiveness of Pedestrian Elements Constructed through Competitive Funding Mechanisms, TxDOT ($65,000)

2025–2027 **(PI)** Developing Fatigue Management Decision Support System for the U.S. Rail Industry, Federal Railway Administration (FRA) ($260,000)

2025–2027 **(PI–TXST)** TxDOT 0-7263: Optimize Tradeoffs between Centerline Buffers, Lane Width, and Shoulders for Rural Undivided Highways, TxDOT ($40,007)

2025–2027 **(PI–TXST)** TxDOT 0-7265: Evaluate Emerging Transportation Technologies and Advancements in Engineering and Roadway Safety Efforts Impact on Crashes, TxDOT ($114,680)

2025–2027 **(PI)** NCHRP 17-134: Center Line Buffer Areas for Safety: Implementation Guidelines and Tool, National Academies of Sciences, Engineering, and Medicine ($250,000) [with TTI]

2025–2027 **(PI)** BTS-39: Toolkit for Reducing Substance-Impaired Driving for the Last Leg of the Journey, National Academies of Sciences, Engineering, and Medicine ($250,000) [with PSU and Exponent]

2025–2027 **(PI–TXST)** NCHRP 17-133: Applicability of the 85th Percentile for Setting Speed Limits on Freeways, Expressways, and Rural Highways, National Academies of Sciences, Engineering, and Medicine ($40,000)

2025–2027 **(PI)** NCHRP 56-05: Traffic Analysis Practices for Non-Motorized Modes (Vulnerable Road Users), National Academies of Sciences, Engineering, and Medicine ($55,000)

2025–2027 **(PI–TXST)** Refining the Understanding of Parking Space Requirements and Its Impact on Vehicle Miles Travelled, MnDOT ($44,999)

2024–2025 **(PI)** Big Data Leveraged Intersection Safety System (BLISS), FIAP, TXST ($11,000)

2024–2028 **(PI–TXST)** TxDOT 0-7215: Predicting Field Performance of Pavement Markings Statewide in Texas, TxDOT ($85,178.75)

2024–2027 **(PI–TXST)** TxDOT 0-7230: Improve Safety and Decrease Vehicle Fatalities by Improving Pavement Markings, TxDOT ($74,292.50)

2024–2026 **(PI–TXST)** TxDOT 0-7226: Analyze Operational and Safety Improvements Associated with Implemented Innovative Intersections in Texas, TxDOT ($36,000)

2024–2026 **(PI–TXST)** TxDOT 0-7222: Develop Crash Predictive Methods for Frontage Roads Including Ramp Terminals, and Intersections with Crossroads in Texas, TxDOT ($70,000)

2024–2025 **(Co-PI)** Identification of Unprecedented Coastal Flooding Hotspots for Highway Network Durability and Social Justice, CREATE UTC, USDOT ($151,448)

2024–2026 **(PI–TXST)** Social and Community Factors Contributing to Pedestrian Trespass Behaviors (and Motorist Incursions) on Railroad Systems, FRA ($264,000)

2024–2026 **(PI–TXST)** Roadside Feature Placement and Pedestrian Safety on Low and Intermediate Speed Road, Minnesota DOT ($58,891)

2023–2024 **(PI)** SafeR: Safe Routing Tool, NSF I-Corps ($61,000)

2023–2025 **(PI–TXST)** TxDOT 0-7183: Develop Crash Modification Factors for Super 2 Highways, TxDOT (Sub-contractor to TTI) [TXST Budget: $68,695]

2023–2025 **(PI–TXST)** TxDOT 0-7187: Exploring and Developing Innovative Methods for Estimating VMT on Local Roads in Texas, TxDOT (Sub-contractor to TTI) [TXST Budget: $40,166]

2023–2025 **(PI–TXST)** TxDOT 0-7189: Safety Assessment of Shared Use Paths at Roadway Crossings using Exposure-based Models, TxDOT (Sub-contractor to TTI) [TXST Budget: $77,000]

2023–2025 **(PI–TXST)** TxDOT 0-7171: Barrier Striping for the Reduction of Accidents, TxDOT (Sub-contractor to TTI) [TXST Budget: $70,000]

2023–2025 **(PI–TXST)** Increasing Equity in Traffic Safety, AAA Foundation (Sub-contractor to UW Tacoma) [TXST Budget: $60,000]

2023–2025 **(PI)** Run to R1 Postdoctoral Researcher Catalyst Program Award, TXST ($160,000)

2023–2025 **(PI)** NCHRP 17-113: Incorporating Safe System Approach into the NCHRP Report 500 Series, National Academies ($700,000) [with VHB and Rowan University]

2023–2025 **(PI–TXST)** Evaluation of NJDOT Hardened Traffic Paint Markings and Stripes Performance, NJDOT (Sub-contractor to Rowan University) [TXST Budget: $83,000]

2022–2024 **(PI)** Develop a Real-Time Decision Support Tool for Urban Roadway Safety Improvements, TxDOT ($465,010)

2022–2024 **(Co-PI)** Using Vehicle Probe Data to Evaluate Speed Limits on Texas Highways, TxDOT ($400,000)

2021–2023 **(PI)** Developing AI-driven Safe Navigation Tool, USDOT UTC ($330,000)

2021–2023 **(PI)** Leveraging AI Techniques to Detect, Forecast, and Manage Freeway Congestion ($310,000) [with Texas Southern University]

2020–2022 **(PI)** Autonomous Delivery Vehicle as a Disruptive Technology: How to Shape the Future with a Focus on Safety?, USDOT UTC ($300,000)

2019–2023 **(PI)** Safety Enhancements at Short-Storage-Space Railroad Crossings, Michigan DOT ($110,000)

2020–2021 **(PI)** TCRP Synthesis SB-33: Uses of Social Media in Public Transportation, National Academies of Sciences, Engineering, and Medicine ($45,000)

2019–2021 **(PI)** Develop a Real-Time Decision Support Tool for Rural Roadway Safety Improvements, TxDOT ($300,000)

2019–2021 **(PI)** Develop Speed Crash Modification Factors (CMFs) from SHRP-2 Data, FHWA ($189,891)

2019–2021 **(Co-PI)** Use of Disruptive Technologies to Support Safety Analysis and Meet New Federal Requirements, USDOT UTC ($176,000)

2019 **(PI)** Innovative Data Sources for Real-time Crash Prediction, USDOT UTC ($20,000)

2019–2020 **(Co-PI)** NCHRP 20-07 (Task 384): Core Competencies for Key Safety Training, National Academies of Sciences, Engineering, and Medicine ($75,000)

2018–2019 **(PI)** Transportation Safety Planning Noteworthy Practices, FHWA ($30,000)

2018–2019 **(PI)** Rural Speed Safety Project for USDOT Safety Data Initiative, FHWA ($240,000)

2018–2020 **(Co-PI)** Louisiana's Alcohol-Impaired Driving Problem: An Analysis of Crash and Cultural Factors, LADOTD ($175,000)

2017–2019 **(Co-PI)** NCHRP 14-40: Comparison of Cost, Safety, and Environmental Benefits of Routine Mowing and Managed Succession of Roadside Vegetation, National Academies ($300,000)

2016 **(PI)** Safety Impacts of Reduced Visibility in Inclement Weather, USDOT UTC ($44,000)

2016 **(PI)** Improper Passing-Related Crashes on Rural Roadways, TTI Strategic Research Program ($21,000)

2016 **(Co-PI)** Urban Roadway Fatality Analysis, TTI ($30,000)

As Key Researcher

2021–2023 NCHRP 07-30: Methods for Assigning Short-Duration Traffic Volume Counts to Adjustment Factor Groups for Estimating AADT. National Academies of Sciences, Engineering, and Medicine.

2021–2022 NCHRP 17-71A: Proposed AASHTO Highway Safety Manual, Second Edition, National Academies of Sciences, Engineering, and Medicine.

2020–2023 NCHRP 15-76: Designing for Target Speed, National Academies of Sciences, Engineering, and Medicine.

2020–2022 Develop Highway Safety Manual (HSM) Safety Performance Functions (SPFs) and Calibration Factors for Texas, TxDOT

2019–2022 Enhancing Freeway Safety Prediction Models, TxDOT

2019–2022 Improving and Communicating Speed Management Practices, TxDOT

2019–2022 Quantifying the Value of Right of Way, TxDOT

2019–2022 Implementation of Automated Traffic Signal Performance Measures, TxDOT

2019–2022 Examine Trade-off between Centerline Separation and Shoulder Width Allotment, TxDOT

2019–2022 NCHRP 03-134: Determination of Encroachment Conditions in Work Zones. National Academies of Sciences, Engineering, and Medicine.

2019–2024 NCHRP 17-92: Developing Safety Performance Functions for Rural Two-Lane Highways that Incorporate Speed Measures. National Academies of Sciences, Engineering, and Medicine.

2019–2023 ELCSI-PFS, Phase XI: Safety Evaluations of Mini-Roundabouts and Wrong Way Driving Improvements, FHWA

2019 Using Machine Learning Tools to Identify Pedestrian Crash Types, TTI

2019 Winter-Related Performance Analysis, PennDOT

2019–2022 NCHRP 06-18: Guide for Snow and Ice Control Operations. National Academies of Sciences, Engineering, and Medicine.

2019–2022 Transportation Pooled Fund Study TPF-5(361): SHRP2 Naturalistic Driving Study Pooled Fund: Advancing Implementable Solutions

2019–2023 Pre-Crash Modification Factors Study for Curb Extensions and Bicycle-Specific Intersection Markings, FHWA

2018–2020 Traffic Safety Improvements at Low Water Crossings, TxDOT

2018–2020 Evaluation of Roadside Treatments to Mitigate Roadway Departure Crashes, TxDOT

2018–2021 Development of Pedestrian Intersection Crash Modification Factors, FHWA

2018–2020 NCHRP 05-24: Guidelines for Vehicle and Equipment Color, Marking, and Lighting. National Academies of Sciences, Engineering, and Medicine.

2018–2020 NCHRP 14-41: Permanent Vegetation Control Treatments for Roadsides. National Academies of Sciences, Engineering, and Medicine.

2018 Evaluation of Bicycle and Pedestrian Monitoring Equipment to Establish Collection Database/Methodologies for Estimating Non-Motorized Transportation, TxDOT

2017–2019 Collection and Estimation of Annual Average Daily Traffic (AADT) on Lower-Volume Roads, FHWA

2017–2019 A Data-Driven Safety Analysis Framework for the Beaumont District, TxDOT

2017–2019 Identifying Infrastructure-Based Motorcycle Crash Countermeasures – Phase I, FHWA

2017–2019 Evaluation of Safety Improvement Projects and Countermeasures, TxDOT

2017–2019 Knowledge Extraction using Natural Language Processing from Farm Equipment Related Crash Narratives, NIOSH

2017–2019 Development of Crash Modification Factors for Different Separated Bike Lane (SBL) Configurations, FHWA

2017–2019 CV Pilot Deployment and Program Evaluation: Planning for SMEE Assessment of Smart Columbus Program, FHWA

2017–2018 Influences on Bicyclists and Motor Vehicle Operating Speed within a Corridor, UTC

2017 Measuring Automated Vehicle Safety, TTI

2017 Transit Automation Tech Reviews, Volpe

2016–2020 Field Evaluation of At-Grade Alternative Intersection Designs, FHWA

2016–2019 Technical Support for Focus Approach to Roadway Departure (RwD) Safety, FHWA

2016–2019 Pedestrian and Bike Scalable Risk Assessment Methodology (ScRAM), FHWA

2016–2018 NCHRP 17-76: Guidance for the Setting of Speed Limits. National Academies of Sciences, Engineering, and Medicine.

2016–2018 NCHRP 17-71: Proposed AASHTO Highway Safety Manual, Second Edition. National Academies of Sciences, Engineering, and Medicine.

2016 Safety Performance of Truck Lane Restrictions in Dallas–Fort Worth, TTI

2016 Analysis of the Shoulder Widening Need on the State Highway System, TxDOT

2016 Is Age a Factor in Crashes at Channelized Right-Turn Lanes? An Exploration of Potential Relationships, Atlas UTC, USDOT

2015 Developing a method for estimating AADT on all Louisiana roads, Louisiana Department of Transportation & Development

2013–2014 A Comprehensive Study on Pavement Edge Line Implementation, Louisiana Department of Transportation & Development

2012 Safety Improvement from Edge Lines on Rural Two-Lane Highways, Louisiana Department of Transportation & Development

2012 Developing Inexpensive Crash Countermeasures for Louisiana Local Roads, Louisiana Department of Transportation & Development

2011 Mining Potentially Interesting Positive and Negative Association Patterns from Traffic Safety Data, LTRC 2011 TIRE Award

PUBLICATIONS

400 plus publcations. * indicates student/postdoc supervised by Dr. Das.

- **Books:** 2 (both published from CRC Press), 2 in development (1 from CRC Press, 1 from Elsevier)
- **Book Chapters:** 6
- **Peer-Reviewed Journal Articles:** 238. Key Publications in ACM Computing Surveys (IF: 23.8): 3; The Lancet (IF: 88.5): 6; Accident Analysis & Prevention (IF: 6.2): 32; Transportation Research Part F (IF: 4.4): 12; Transportmetrica A: Transport Science (IF: 3.1): n; Journal of Safety Research (IF: 3.9): n; Traffic Injury Prevention (IF: 1.9): 5; Cities (IF: 6.0): 3; Transport Policy (IF: 6.3): 3; Transportation Research Record (IF: 1.8): 58; Journal of Transportation Safety & Security (IF: 3.61): 18.
- **Peer-Reviewed Magazine Articles:** 8
- **Large Collaborative Health Studies (GBD):** 8
- **Peer-Reviewed Computer Science Conference Proceeding Papers:** 18. IEEE: 8 ACM: 4; Others: 6.
- **Peer Review Techinal Reports:** 45. CRP Reports: 7; FHWA Reports: 6; USDOT Reports: 8; State DOT Reports: 18; Other Reports: 6.
- **Peer-Reviewed Transportation Engineering Conference Papers:** 230 (listed 60 in the resume) TRBAM2026: 49; TRBAM2025: 24; TRBAM2024: 49; TRBAM2023: 30; TRBAM2022: 16; TRBAM2021: 27; TRBAM2020: 5; TRBAM2019: 2; TRBAM2018: 6; TRBAM2017: 5; TRBAM2016: 1; TRBAM2015: 1; TRBAM2014: 1; Others: 14
- **Under Review Paper Preprints:** 26

Books

2027 [B04] **Das, S.** *Artificial Intelligence and Generative AI in Civil Engineering: A Practical Guide to Data-Driven Solutions*. CRC Press, Boca Raton, FL. (Contract complete; book development ongoing.)

2026 [B03] **Das, S.** *Artificial Intelligence in Highway Engineering: Optimizing Infrastructure and Mobility*. Elsevier, Cambridge, MA. (Contract complete; book development ongoing.)

2025 [B02] Huang, X., Ye, X., Stewart, K., **Das, S.** *Urban Human Mobility: Practices, Analytics, and Strategies for Smart Cities*. CRC Press, Boca Raton, FL. doi Link

2022 [B01] **Das, S.** *Artificial Intelligence in Highway Safety*. CRC Press, Boca Raton, FL. doi Link

Book Chapters

2022 [BC06] **Das, S.** Chapter 10: Impact of COVID-19 on industries. In *COVID-19 and the Environment: Impact, Concerns & Management*. Elsevier. doi Link

2020 [BC05] **Das, S.**, Chatterjee, S., Mitra, S. Improper passing and lane-change related crashes: Pattern recognition using association rules and negative binomial mining. Springer. doi Link

2020 [BC04] Dutta, A., **Das, S.** Tweets about self-driving cars: Deep sentiment analysis using long short-term memory (LSTM). Springer. doi Link

2020 [BC03] **Das, S.**, Dutta, A., Mudgal, A., Datta, S. Non-fear-based road safety campaign as a community service: Contexts from social media. In *Communication in Computer and Information Science*. Proceedings of I4CS (Jan. 12–14, 2020), Bhubaneswar, India, Vol. 717. Springer. doi Link

2020 [BC02] **Das, S.** Automobile safety inspection. In *International Encyclopedia of Transportation*. Elsevier, Amsterdam, Netherlands. doi Link

2018 [BC01] Jalayer, M., Zhou, H., **Das, S.** Exploratory analysis of run-off-road crash patterns. In *Data Analytics for Smart Cities*. CRC Press, Boca Raton, FL. doi Link

Patents

2025 [P05] **Das, S.**, Somvanshi, S. *AVLocal: Safe AV maneuvers on local roads.* (pending)

2025 [P04] **Das, S.**, Islam, M. M. *PedSense: Pedestrian alert system for road and rail grade crossings.*(pending)

2024 [P03] Dutta, A., Tusti, A., **Das, S.** *Safe-T: Road safety application for teen drivers.*(pending)
2024 [P02] **Das, S.**, Chakraborty, R. *BLISS: Big data leveraged intersection safety system.*(pending)
2024 [P01] **Das, S.**, Mills, D. *SafeR: The safest routing tool.*(pending)

Peer-Reviewed Journal Articles

[*indicates student/Post-doc supervised by Dr. Das]

2026 [J0238] Tusti, A.G.*, Chakraborty, R.*, Chowdhury, T.I.*, Islam, M.M.*, Mimi, M.S.*, and **Das, S.** Uncovering Latent Structures of Crash Typology in Narcotic-Involved Fatal Crashes for Safe System Interventions. *Accident Analysis & Prevention*.

2026 [J0237] Somvanshi, S.*, Liu, J.*, Chakraborty, R.*, Tamakloe, R., and **Das, S.** Predicting Crash Severity Using Naturalistic Driving Data and Neural Networks. *International Journal of Intelligent Transportation Systems Research*.

2026 [J0236] Somvanshi, S.*, Islam, M. M.*, Rafe, A.*, Tusti, A. G.*, Chakraborty, A.*, Baitullah, A.*, Chowdhury, T. I.*, Alnawmasi, N., Dutta, A., and **Das, S.** Bridging the Black Box: A Survey on Mechanistic Interpretability in AI. *ACM Computing Surveys*. doi Link

2026 [J0235] Javed, S. A.*, Barua, S.*, Tusti, A.G.*, Polock, S.*, Chowdhury, T. I.*, and **Das, S.** Built environment and injury risk: Association rule-based exploration of e-scooter crashes in Texas cities. *Cities*. doi Link

2026 [J0234] Somvanshi, S.*, Liu, J.*, Chakraborty, R.*, Tamakloe, R., and **Das, S.** Predicting Crash Severity Using Naturalistic Driving Data and Neural Networks. *International Journal of Intelligent Transportation Systems Research*.

2025 [J0233] Rahman, M.A., Tolford, T., Junaed, S., **Das, S.**, Hossain, A., Moomen, M., Mitran, E., and Codjoe, J. Pedestrian fatalities on U.S. interstates: a pattern mining approach to investigating pedestrian actions and policy implications. *Case Studies on Transport Policy*. doi Link

2025 [J0232] Somvanshi, S., Islam, M. M., Chhetri, G., Chakraborty, R., Mimi, M. M., Shuvo, S. A., Islam, K. S., Javed, S. A., Rafat, S. A., Dutta, A., and **Das, S.** *From Tiny Machine Learning to Tiny Deep Learning: A Survey*. *ACM Computing Surveys*. doi Link

2025 [J0231] Ye, X., Newman, G., Zhai, W., Retchless, D., **Das, S.**, Ham, Y., Zou, L., Huang, X., and Zhang, Z. Toward Coastal Infrastructure Resiliency: An AI-Enabled Decision Support Framework for Multiscale Comprehension and Stakeholder Empowerment. *Transactions of the American Philosophical Society*. doi Link

2025 [J0230] Banihashemi, M., **Das, S.**, Dadvar, S., and Liu, J.* COVID-19 Era Crash Fatality/Severe Injury and Proven Speed–Crash Relations. *Transportation Research Record*. doi Link

2025 [J0229] Hossain, A.*, Das, A., Javed, S. A.*, **Das, S.**, and Mills, D.* Analyzing Pedestrian–Automated Vehicle Crash Dynamics: A Comparative Study of Autonomous and Conventional Precrash Mode. *Transportation Research Record*. doi Link

2025 [J0228] Oliaee, A. H., **Das, S.**, and Le, M. Automating Pedestrian Crash Typology Using Transformer Models. *Transportation Research Record*. doi Link

2025 [J0227] **Das, S.**, Chakraborty, R.*, Sheykhfard, A., Kutela, B., and Ye, X. Using Perceptual Cycle Model and Text Mining to Investigate Ambulance Traffic Crashes. *Transportation Research Record*. doi Link

2025 [J0226] Liu, J.*, Antariksa, G.*, Somvanshi, S.*, and **Das, S.** Revealing equity gaps in pedestrian crash data through explainable artificial intelligence clustering. *Transportation Research Part D: Transport and Environment*. doi Link

2025 [J0225] Geedipally, S., **Das, S.**, Wu, L., and Pratt, M. P. Safety Performance Functions for Frontage Roads. *Transportation Research Record*. doi Link

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2022 [TR028] Geedipally, S., Brewer, M., Wunderlich, R., Pratt, M. P., Wu, L., **Das, S.**, and Florence, D. *Examine Trade-Offs between Center Separation and Shoulder Width Allotment for a Given Roadway Width*. TxDOT Project Report. 146 p. url Link

2021 [TR027] Tsapakis, I., Holik, W., **Das, S.**, Kraus, E., and Anderson, P. *Informational Guide on Data Collection and Annual Average Daily Traffic (AADT) Estimation for Non-Federal Aid-System (NFAS) Roads*. doi Link

2021 [TR026] Dobrovolny, C., Balke, K., Bligh, R., Hurlebaus, S., Shi, S., Pike, A., **Das, S.**, Charara, H., and Mott, C. *Traffic Safety Improvements at Low Water Crossings*. TxDOT Project Report. url Link

2021 [TR025] Dixon, K., **Das, S.**, and Potts, I. *National Cooperative Highway Research Program (NCHRP) 20-07 (384): Core Competencies for Key Safety Analysis*. National Academies. url Link

2021 [TR024] Fitzpatrick, K., Avelar, R., Pratt, M., **Das, S.**, and Lord, D. *Crash Modification Factor for Corner Radius, Right-Turn Speed, and Prediction of Pedestrian Crashes at Signalized Intersections*. FHWA Report. 136 p. doi Link

2021 [TR023] Fitzpatrick, K., **Das, S.**, Pratt, M. P., Dixon, K. K., and Gates, T. J. *Posted Speed Limit Setting Procedure and Tool: User Guide*. NCHRP Research Report, Issue 966, 71 p. doi Link

2020 [TR022] Storey, B., **Das, S.**, McFalls, J., Avelar, R., and Dadashova, B. *Comparison of Cost, Safety, and Environmental Benefits of Routine Mowing and Managed Succession of Roadside Vegetation*. NCHRP 14-40 Report. url Link

2020 [TR021] Fitzpatrick, K., **Das, S.**, Gates, T. J., Park, E. S., Pratt, M. P., Dixon, K. K., Kay, J., and Chakraborty, M. *Development of the Posted Speed Limit Setting Procedure and Tool*. NCHRP Web-Only Report, Issue 291, 190 p. doi Link

2020 [TR020] Dixon, K., Geedipally, S., Park, E., Srinivasan, R., Lan, B., Brewer, M., **Das, S.**, Wu, L., Zegeer, C., and Rista, E. *Guidance for Selection of Appropriate Countermeasures for Opposite Direction Crashes*. NCHRP 17-66 Report. doi Link

2020 [TR019] Avelar, R., Geedipally, S., **Das, S.**, Wu, L., and Kutela, B. *Evaluation of Roadside Treatments to Mitigate Roadway Departure Crashes*. TxDOT Report. url Link

2020 [TR018] **Das, S.**, Avelar, R., Geedipally, S., Wu, L., Lord, D., and Banihashemi, M. *Rural Speed Safety Project for USDOT Safety Data Initiative (SDI)*. USDOT Report. url Link

2019 [TR017] Tsapakis, I., Sharma, S., Geedipally, S., Dadashova, B., and **Das, S.** *Evaluation of Highway Safety Improvement Projects and Countermeasures*. TxDOT Report. url Link

2018 [TR016] Turner, S., Sener, I., Marin, M., White, L., **Das, S.**, Hampshire, R., Colety, M., Fitzpatrick, K., and Wijesundera, R. *Guide for Scalable Risk Assessment Methods for Pedestrians and Bicyclists*. FHWA Report. url Link

2018 [TR015] Turner, S., Dadashova, B., Griffin, G., and **Das, S.** *Improving the Amount and Availability of Pedestrian and Bicyclist Count Data in Texas*. TxDOT Report. url Link

2018 [TR014] Fitzpatrick, K., and **Das, S.** *Influences on Bicyclists and Motor Vehicle Operating Speed within a Corridor*. SafeD UTC Project Report. url Link

2018 [TR013] Pratt, M., Geedipally, S., **Das, S.**, and Lord, D. *Pavement Safety-based Guidelines for Horizontal Curve Safety*. TxDOT Report. url Link

2018 [TR012] Mensar, M., Trueblood, A., Shipp, E., and **Das, S.** *MCCS Data Analysis and Literature Review*. FHWA Project Report. url Link

2017 [TR011] **Das, S.**, Brimley, B., and Pant, A. *Safety Impacts of Reduced Visibility in Inclement Weather*. Report No.: ATLAS-2017-19. url Link

2017 [TR010] Turner, S., Sener, I., Marin, M., **Das, S.**, Shipp, E., Hampshire, R., Fitzpatrick, K., Molnar, L., Wijesundera, R., Colety, M., and Robinson, S. *Synthesis of Methods for Estimating Pedestrian and Bicyclist Exposure to Risk at Area wide Levels and on Specific Transportation Facilities*. Publication No. FHWA-SA-17-041. url Link

2017 [TR009] Le, M., **Das, S.**, and Pratt, M. *Safety Performance of Truck Lane Restrictions in Dallas-Fort Worth*. TTI Report.

2017 [TR008] Dixon, K., and **Das, S.** *Measuring and Benchmarking Automated Vehicle Safety*. TTI Report.

2016 [TR007] Dixon, K., Fitzpatrick, K., Avelar, R., and **Das, S.** *Analysis of the Shoulder Widening Need on the State Highway System*. Report No.: 0-6840-1. url Link

2016 [TR006] Fitzpatrick, K., and **Das, S.** *Is Age a Factor in Crashes at Channelized Right-Turn Lanes? An Exploration of Potential Relationships*. Report No.: ATLAS-2016-14. url Link

2015 [TR005] Sun, X., **Das, S.**, Ragbhan, V., and Benton, R. *User Sentiment Analysis with Louisiana Social Media Data for Better and Effective Crash Countermeasures*. Report No.: 14-4TIRE. url Link

2015 [TR004] Sun, X., and **Das, S.** *Developing a Method for Estimating AADT on All Louisiana Roads*. Report No.: FHWA/LA.15/14-3SA. url Link

2014 [TR003] Sun, X., and **Das, S.** *A Comprehensive Study on Pavement Edge Line Implementation*. Report No.: FHWA/LA.13/508. *(2014 AASHTO High Value Research Sweet Sixteen Award)*. url Link

2013 [TR002] Sun, X., and **Das, S.** *Developing Crash Modification Factor for Louisiana*. Report No.: FHWA/LA.12/506. url Link

2011 [TR001] Sun, X., and **Das, S.** *Safety Improvement from Edge Lines on Rural Two-Lane Highways*. Report No.: FHWA/LA.11/487. url Link

Large Collaborative Health Studies (GBD)

2024 [GBD8] GBD 2019 Blindness and Vision Impairment Collaborators, **Das, S.** Burden of disease scenarios for 204 countries and territories, 2022–2050: a forecasting analysis for the Global Burden of Disease Study 2021. *The Lancet*. doi Link

2024 [GBD7] GBD 2019 Blindness and Vision Impairment Collaborators, **Das, S.** Global estimates on the number of people blind or visually impaired by cataract: A meta-analysis from 2000 to 2020. *Eye*. doi Link

2024 [GBD6] GBD 2021 Risk Factors Collaborators, **Das, S.** Global burden and strength of evidence for 88 risk factors in 204 countries and 811 subnational locations, 1990–2021: A systematic analysis for the Global Burden of Disease Study 2021. *The Lancet*. doi Link

2024 [GBD5] GBD 2021 Causes of Death Collaborators, **Das, S.** Global burden of 288 causes of death and life expectancy decomposition in 204 countries and territories and 811 subnational locations, 1990–2021: A systematic analysis for the Global Burden of Disease Study 2021. *The Lancet*. doi Link

2024 [GBD4] GBD 2021 Nervous System Disorders Collaborators, **Das, S.** Global, regional, and national burden of disorders affecting the nervous system, 1990–2021: A systematic analysis for the Global Burden of Disease Study 2021. *The Lancet Neurology*. doi Link

2023 [GBD3] GBD 2019 Bangladesh Burden of Disease Collaborators, **Das, S.** The burden of diseases and risk factors in Bangladesh, 1990–2019: A systematic analysis for the Global Burden of Disease Study 2019. *The Lancet Global Health*. doi Link

2023 [GBD2] GBD 2021 Carbon Monoxide Poisoning Collaborators, **Das, S.** Global, regional, and national mortality due to unintentional carbon monoxide poisoning, 2000–2021: Results from the Global Burden of Disease Study 2021. *The Lancet Public Health*. doi Link

2023 [GBD1] GBD Collaborators, **Das, S.** Global Burden of Cardiovascular Diseases and Risks, 1990-2022. *Journal of the American College of Cardiology* . doi Link

Peer-Reviewed Computer Science Conference Proceeding Papers

2026 [CC018] Chhetri, G.*, **Das, S.**, and Chowdhury, T. I.* WISE: Web Information Satire and Fakeness Evaluation. *WEB&GRAPH 2026: First Workshop on Web & Graphs, Responsible Intelligence, and Social Media*, co-located with ACM WSDM 2026, Boise, Idaho, USA.

2026 [CC017] Chhetri, G.*, **Das, S.**, and Chowdhury, T. I.* SPARK: Search Personalization via Agent-Driven Retrieval and Knowledge-sharing. *WEB&GRAPH 2026: First Workshop on Web & Graphs, Responsible Intelligence, and Social Media*, co-located with ACM WSDM 2026, Boise, Idaho, USA.

2025 [CC016] Mimi, M. S., Islam, M. M., Tusti, A. G., Somvanshi, S., and **Das, S.** *ST-GraphNet: A Spatio-Temporal Graph Neural Network for Understanding and Predicting Automated Vehicle Crash Severity*. *SpatialConnect '25: Proceedings of the 1st ACM SIGSPATIAL International Workshop on Spatial Intelligence for Smart and Connected Communities*. doi Link

2026 [CC015] Chhetri, G.*, Dutta, A., and **Das, S.** CognitiveSky: Scalable sentiment and narrative analysis for decentralized social media. *The 59th Hawaii International Conference on System Sciences (HICSS)*, Hyatt Regency Maui, Jan. 6–9.

2026 [CC014] Chakraborty, R., and **Das, S.** A Dimensionality-Reduced XAI Framework for Roundabout Crash Severity Insights. *The 59th Hawaii International Conference on System Sciences (HICSS)*, Hyatt Regency Maui, Jan. 6–9.

2025 [CC013] Somvanshi, S., Hebli, P., Chhetri, G., and **Das, S.** Tabular data with class imbalance: Predicting electric vehicle crash severity with pretrained transformers (TabPFN) and Mamba-based models. *The 24th IEEE International Conference on Machine Learning and Applications (ICMLA)*, Florida, USA, Dec. 3–5.

2025 [CC012] Chhetri, G., Anderson, D., Kutela, B., and **Das, S.** A transformer-based cross-platform analysis of public discourse on the 15-minute city paradigm. *The 24th IEEE International Conference on Machine Learning and Applications (ICMLA)*, Florida, USA, Dec. 3–5.

2025 [CC011] Somvanshi, S.*, Chakraborty, R.*, **Das, S.**, and Dutta, A. Crash severity analysis of child bicyclists using Arm-Net and MambaNet. *2025 IEEE Conference on Artificial Intelligence (CAI)*, Santa Clara, CA. doi Link

2025 [CC010] Somvanshi, S.*, Liu, J.*, and **Das, S.** A survey on generative AI in transportation systems management and operation. *2025 IEEE Conference on Artificial Intelligence (CAI)*, Santa Clara, CA. doi Link

2025 [CC009] Antariksa, G., Tamakloe, R., Liu, J.*, and **Das, S.** Automated and explainable artificial intelligence to enhance prediction of pedestrian injury severity. *2025 IEEE Conference on Artificial Intelligence (CAI)*, Santa Clara, CA. doi Link

2025 [CC008] Somvanshi, S.*, Tusti, A. G.*, Chakraborty, R.*, and **Das, S.** Applying tabular deep learning models to estimate crash injury types of young motorcyclists. *2025 IEEE Conference on Artificial Intelligence (CAI)*, Santa Clara, CA. doi Link

2025 [CC007] Barua, S.*, Dutta, A., and **Das, S.** Modeling distracted driving: Analyzing driver gaze, vehicle positioning, and psychological response for enhanced traffic safety. *2025 IEEE Conference on Artificial Intelligence (CAI)*, Santa Clara, CA. doi Link

2025 [CC006] Antariksa, G., Chakraborty, R.*, Somvanshi, S.*, **Das, S.**, Jalayer, M., and Patel, D. R. Comparative analysis of advanced AI-based object detection models for pavement marking quality assessment during daytime. *2025 IEEE Conference on Artificial Intelligence (CAI)*, Santa Clara, CA. doi Link

2025 [CC005] **Das, S.** HyperSumm-RL: A dialogue summarization framework for modeling leadership perception in social robots. *HT 2025: 36th ACM Conference on Hypertext and Social Media*. doi Link

2021 [CC004] **Das, S.**, and Zubaidi, H. Autonomous vehicles and pedestrians: A case study of human–computer interaction. *International Conference on Human-Computer Interaction*. doi Link

2021 [CC003] Zubaidi, H., Obaid, I., Mohammed, H., **Das, S.**, and Al-Bdairi, N. S. S. Hot spot analysis of crash locations at roundabouts through the application of GIS. *Journal of Physics: Conference Series*, 1895(1). doi Link

2020 [CC002] Wang, R.*, **Das, S.**, and Mudgal, A. Patterns of origin–destination distributions: Rules mining using massive GPS trajectory data. *Proceedings of the First International Conference on Urban Data Science*, Madras, India, Jan. 20–21. doi Link

2012 [CC001] He, Y., Sun, X., Du, L., Jinmei, R., and **Das, S.** Level of service for parking facilities. *15th International IEEE Conference on Intelligent Transportation Systems*, Anchorage, AK. doi Link

Peer-Reviewed Transportation Engineering Conference Papers and Proceedings

TRB Annual Meetings (Partial List)

[Note: Representative 45 papers are listed out of 216 peer-reviewed accepted papers (either poster or lectern sessions) at TRBAM.]

2026 [TRB045] Barua, S.*, Chhetri, G., Chowdhury, T. I., Pandey, B., and **Das, S.** Temporal patterns and risk factors in food delivery vehicle crashes: Evidence from structural topic modeling of daytime and nighttime incidents. *105th Transportation Research Board Annual Meeting*, Washington, D.C., Jan 11–15.

2026 [TRB044] Somvanshi, S., Hebli, P., Chhetri, G., and **Das, S.** Attention-based and state-space models for predicting electric vehicle crash severity. *105th Transportation Research Board Annual Meeting*, Washington, D.C., Jan 11–15.

2026 [TRB043] Javed, S. A.*, Barua, S., Tusti, A. G., Polock, S. B. B., Chowdhury, T. I., and **Das, S.** Uncovering patterns in e-scooter crash severity using the lift increase criterion in association rule mining. *105th Transportation Research Board Annual Meeting*, Washington, D.C., Jan 11–15.

2026 [TRB042] Starewich, M.*, Barua, S., Tusti, A. G., Javed, S. A., Polock, S. B. B., Chowdhury, T. I., and **Das, S.** On any Sunday and beyond: A SHAP-enabled random-parameters analysis of older motorcyclist injury severity. *105th Transportation Research Board Annual Meeting*, Washington, D.C., Jan 11–15.

2026 [TRB041] Chakraborty, R.*, Chowdhury, T. I., Chakraborty, A., Baitullah, A., Kutela, B., and **Das, S.** Identifying latent structures in fatal highway-rail grade crossing crashes using dimensionality reduction methods. *105th Transportation Research Board Annual Meeting*, Washington, D.C., Jan 11–15.

2026 [TRB040] Mimi, M. S.*, Islam, M. M., Chowdhury, T. I., Tusti, A. G., and **Das, S.** Understanding contributing factors to pedestrian failure-to-yield fatal crashes: Maneuvers classification using AutoML and model interpretability techniques. *105th Transportation Research Board Annual Meeting*, Washington, D.C., Jan 11–15.

2026 [TRB039] Islam, M. M.*, Barua, S.*, Chowdhury, T. I.*, Tusti, A. G.*, and **Das, S.** Understanding pedestrian trespassing at U.S. highway-rail grade crossings: A decade-long analysis integrating topic modeling and spatial tools. *105th Transportation Research Board Annual Meeting*, Washington, D.C., Jan 11–15.

2026 [TRB038] Islam, M. M.*, Chowdhury, T. I.*, Tusti, A. G.*, and **Das, S.** Deep learning-based trespassing surveillance system for enhancing safety at highway-rail grade crossings. *105th Transportation Research Board Annual Meeting*, Washington, D.C., Jan 11–15.

2026 [TRB037] Islam, M. M.*, Mimi, M. S.*, Somvanshi, S.*, Tusti, A. G.*, Chhetri, G.*, and **Das, S.** Prompting without labels: Zero- and few-shot LLM performance on e-scooter crash prediction tasks. *105th Transportation Research Board Annual Meeting*, Washington, D.C., Jan 11–15.

2026 [TRB036] Islam, M. M.*, Chakraborty, R.*, Tusti, A. G.*, Aghabayk, K., and **Das, S.** A multidimensional analysis of e-scooter crash severity: Integrating cluster correspondence and SHAP interpretability. *105th Transportation Research Board Annual Meeting*, Washington, D.C., Jan 11–15.

2025 [TRB035] Islam, M. M.*, Tusti, A. G.*, Mimi, M. S.*, Somvanshi, S.*, and **Das, S.** Crash risk analysis of non-motorists using interpretable tabular deep learning. *105th Transportation Research Board Annual Meeting*, Washington, D.C., Jan 11–15, 2026.

2023 [TRB034] **Das, S.**, Tipsword, J., and Gonzalez, J. Encroachment-related work zone crash injury analysis using data-driven Bayesian network. *102nd Transportation Research Board Annual Meeting*, Washington, D.C., Jan 8–12.

2023 [TRB033] **Das, S.**, Kong, X., and Dutta, A. Do patterns of contributing factors differ temporarily in work zone related crashes? *102nd Transportation Research Board Annual Meeting*, Washington, D.C., Jan 8–12.

2023 [TRB033] Hossain, M., Zhou, H., Hossain, A., **Das, S.**, and Sun, X. Crashes involving distracted pedestrians: Exploring association of contributing factors by pedestrian injury severity and modes of distraction. *102nd Transportation Research Board Annual Meeting*, Washington, D.C., Jan 8–12.

2023 [TRB032] **Das, S.**, Rahman, M., Dey, K., Kabir, N., Sheykhfard, A., and Tamakloe, R. Qualitative analysis of urban air mobility as a disruptive technology. *102nd Transportation Research Board Annual Meeting*, Washington, D.C., Jan 8–12.

2023 [TRB031] Hossain, A., Sun, X., Islam, S., Rahman, M., and **Das, S.** Exploring association knowledge in single-vehicle roadway departure crashes on curved segment of rural two-lane highways. *102nd Transportation Research Board Annual Meeting*, Washington, D.C., Jan 8–12.

2022 [TRB030] **Das, S.**, and Trisha, N.* Understanding social media usage patterns by transit agencies. *101st Transportation Research Board Annual Meeting*, Washington, D.C., Jan 9–13.

2022 [TRB029] **Das, S.**, Wei, Z.*, and Dutta, A. Rules mining and narrative analysis of consumer complaints on hybrid electric vehicles. *101st Transportation Research Board Annual Meeting*, Washington, D.C., Jan 9–13.

2022 [TRB028] **Das, S.**, Tabesh, M.*, Dadashova, B., and Dobrovolny, C. Understanding patterns of contributing factors in encroachment-related work zone crashes. *101st Transportation Research Board Annual Meeting*, Washington, D.C., Jan 9–13.

2022 [TRB027] **Das, S.**, Tamakloe, R., Zubaidi, H., and Vierkant, V.* Virtual public engagement and communications in a transportation conference during COVID-19. *101st Transportation Research Board Annual Meeting*, Washington, D.C., Jan 9–13.

2021 [TRB026] **Das, S.** Traffic fatalities by American generations: Exploratory evaluation using person level data. *100th Transportation Research Board Annual Meeting* (virtual).

2021 [TRB025] **Das, S.**, and Wang, R.* Racism discussed in transportation research: Bibliometric analysis and topic modeling. *100th Transportation Research Board Annual Meeting* (virtual).

2021 [TRB024] **Das, S.**, and Theel, M.* Pandemic and transportation research: Bibliometric analysis and topic modeling. *100th Transportation Research Board Annual Meeting* (virtual).

2021 [TRB023] Kong, X.*, **Das, S.**, Zhou, H., and Zhang, Y. Patterns of near-crash events in naturalistic driving dataset: Applying rules mining. *100th Transportation Research Board Annual Meeting* (virtual).

2021 [TRB022] Rahman, M., Dey, K., **Das, S.**, and Sherfinski, M. Sharing the road with autonomous vehicles: A qualitative analysis of the perceptions of pedestrians and bicyclists. *100th Transportation Research Board Annual Meeting* (virtual).

2021 [TRB021] Sun, M., Sun, X., Rahman, M., and **Das, S.** Calibration and development of safety performance functions for rural two-lane two-way stop-controlled intersections in Louisiana. *100th Transportation Research Board Annual Meeting* (virtual).

2021 [TRB020] Hosseini, P., Jalayer, M., and **Das, S.** A multiple correspondence approach to identify contributing factors related to work zone crashes. *100th Transportation Research Board Annual Meeting* (virtual).

2021 [TRB019] Hosseini, P., Jalayer, M., and **Das, S.** Identifying wrong-way driving (WWD) crashes in police reports using text mining techniques. *100th Transportation Research Board Annual Meeting* (virtual).

2020 [TRB018] Mahmoudzadeh, A., Elgart, Z., Arezoumand, S., Hansen, T., and **Das, S.** Designing transit agency job descriptions for optimal roles: An analytical text-mining approach. *ASCE International Conference on Transportation and Development* (virtual), pp. 356–368.

2020 [TRB017] **Das, S.**, and Dutta, A. Co-author networks in transportation research: Findings from TRID data. *99th Transportation Research Board Annual Meeting*, Washington, D.C., Jan 12–16.

2020 [TRB016] Dutta, A., and **Das, S.** Framework of a job lexicon for future transportation workforce. *99th Transportation Research Board Annual Meeting*, Washington, D.C., Jan 12–16.

2020 [TRB015] **Das, S.**, Kong, X.*, Wang, R.*, and Mahmoudzadeh, A.* Pedestrian collisions with bicyclist: Emotion mining using YouTube data. *99th Transportation Research Board Annual Meeting*, Washington, D.C., Jan 12–16.

2020 [TRB014] **Das, S.**, Jha, K.*, and Dutta, A. Vision Zero hashtags in social media: Understanding end-user needs from natural language processing. *99th Transportation Research Board Annual Meeting*, Washington, D.C., Jan 12–16.

2020 [TRB013] Sun, M., Sun, X., Rahman, M., Akter, M., and **Das, S.** Safety performance functions for rural two-way stop-controlled intersections. *99th Transportation Research Board Annual Meeting*, Washington, D.C., Jan 12–16.

2020 [TRB012] Sun, M., Sun, X., Rahman, M., Akter, M., and **Das, S.** Two-way stop-controlled intersection analysis with zero-inflated models. *99th Transportation Research Board Annual Meeting*, Washington, D.C., Jan 12–16.

2019 [TRB011] Jalayer, M., O'Conell, M., Zhou, H., Szary, P., and **Das, S.** Application of unmanned aerial vehicle to inspect and inventory interchange assets to mitigate wrong-way entries. *98th Transportation Research Board Annual Meeting*, Washington, D.C., Jan 13–17.

2019 [TRB010] Sun, M., Sun, X., Shan, D., Armstrong, D., and **Das, S.** Louisiana pedestrian crash analysis with multinomial logit model and Bayesian network. *98th Transportation Research Board Annual Meeting*, Washington, D.C., Jan 13–17.

2019 [TRB009] **Das, S.**, and Dutta, A. Data curation using deep learning. *98th Transportation Research Board Annual Meeting*, Washington, D.C., Jan 13–17.

2018 [TRB008] **Das, S.**, and Dutta, A. Knowledge extraction from transportation research thesaurus. *97th Transportation Research Board Annual Meeting*, Washington, D.C., Jan 7–11.

2018 [TRB007] Minjares-Kyle, L., **Das, S.**, Medina, G., and Henk, R. Knowledge about crash risk factors and self-reported driving behavior: Exploratory analysis on multi-state teen driver survey. *97th Transportation Research Board Annual Meeting*, Washington, D.C., Jan 7–11.

2017 [TRB006] **Das, S.**, Dixon, K., Avelar, R., and Fitzpatrick, K. Using machine learning techniques to estimate non-motorized trips for rural roadways. *96th Transportation Research Board Annual Meeting*, Washington, D.C., Jan 8–12.

2017 [TRB005] Avelar, R., Lindheimer, T., Dixon, K., Miles, J., and **Das, S.** Safety evaluation of the seasonality of crashes with tire debris on highways and freeways. *96th Transportation Research Board Annual Meeting*, Washington, D.C., Jan 8–12.

2016 [TRB004] **Das, S.**, and Sun, X. Estimating traffic volume of non-state roadways with support vector regression. *95th Transportation Research Board Annual Meeting*, Washington, D.C., Jan 10–14.

2016 [TRB003] **Das, S.** Effectiveness of inexpensive crash countermeasures to improve traffic safety. *95th Transportation Research Board Annual Meeting*, Washington, D.C., Jan 10–14.

2015 [TRB002] **Das, S.**, and Sun, X. Zero-inflated models for different severity types in rural two-lane crashes. *94th Transportation Research Board Annual Meeting*, Washington, D.C., Jan 10–14.

2015 [TRB001] **Das, S.**, and Sun, X. Determining the knowledge gap in performance based analysis of geometric design and condition incorporating safety. *94th Transportation Research Board Annual Meeting*, Washington, D.C., Jan 10–14.

Other Transportation Engineering Conferences

2024 [TC014] **Das, S.**, Tipsword, J., and Kutela, B. Unlocking urban sentiments about 15-min city through hashtags. *ASCE International Conference on Transportation and Development*, Atlanta, Georgia, Jun 15–18.

2024 [TC013] Kutela, B., Li, S., **Das, S.**, and Liu, J.* Is ChatGPT a reliable source of transportation equity information for scientific writing? *ASCE International Conference on Transportation and Development*, Atlanta, Georgia, Jun 15–18.

2024 [TC012] **Das, S.** Mapping communication patterns of transit agencies on social media. *ASCE International Conference on Transportation and Development*, Atlanta, Georgia, Jun 15–18.

2024 [TC011] **Das, S.**, Chakraborty, R.*, and Mimi, M.* Unraveling crash causation: A deep dive into non-motorists on personal conveyance. *ASCE International Conference on Transportation and Development*, Atlanta, Georgia, Jun 15–18.

2024 [TC010] **Das, S.**, Hossain, A., Barua, S.*, Kavianpour, S., and Sheykhfard, A. Causal insights into speeding crashes. *ASCE International Conference on Transportation and Development*, Atlanta, Georgia, Jun 15–18.

2024 [TC009] **Das, S.**, and Kutela, B. Delivering tomorrow: Analyzing automated delivery vehicle narratives through media mining. *ASCE International Conference on Transportation and Development*, Atlanta, Georgia, Jun 15–18.

2023 [TC008] Al-Gharabi, A., Zubaidi, H., and **Das, S.** Traffic safety risk assessment for selected roads in Al-Qadisiyah Province. *IOP Conference Series: Earth and Environmental Science*.

2019 [TC007] Sun, X., and **Das, S.** Estimating annual average daily traffic for low-volume roadways. *12th TRB International Conference on Low Volume Roads*, Kalispell, Montana, Sep 15–18.

2018 [TC006] **Das, S.**, Minjares-Kyle, L., Avelar, R., and Bommanayakanahalli, B.* Improper passing related crashes: Identifying patterns using negative binomial precise rules. *7th International Symposium on Naturalistic Driving Research (NDRS 2018)*, Blacksburg, VA, Aug 28–30.

2018 [TC005] **Das, S.**, Fitzpatrick, K., and M., C.* Vehicle speeds in presence of bicyclists. *Joint Western and Texas District Meeting*, Keystone, CO, Jun 24–27.

2017 [TC004] **Das, S.** Exploring SHRP2 NDS for the perspective of self-driving cars in difficult driving condition. *Autonomous Vehicle Symposium*, San Francisco, CA, Jul 10–14.

2017 [TC003] **Das, S.**, Sun, X., and Dixon, K. Converting four-lane roadways into five-lane roadways on urban structure: Study on safety effectiveness. *Urban Street Symposium 5*, Raleigh, North Carolina, May 21–24 (Urban Street Symposium Best Paper Award).

2016 [TC002] Sun, X., **Das, S.**, and Broussard, N. Developing crash models with supporting vector machine for urban transportation planning. *17th Road Safety on Five Continents (RS5C) Conference*, Rio de Janeiro, Brazil, May 17–19.

2014 [TC001] **Das, S.** Analyzing at-fault crash-prone drivers of Louisiana associated with multiple crashes. *SASHTO 2014 Annual Conference*, New Orleans, LA, Aug 23–27 (SASHTO Outstanding Graduate Research Award).

Under-review Paper Preprints

2025 [PR26] Magidanga, V., Kutela, B., Novat, N., and **Das, S.** Understanding the lifecycle of federal-level artificial intelligence (AI) tools: A case of Department of Homeland Security. *SSRN Working Paper*, January 23, 2025. doi Link

2025 [PR25] Javed, S. A., and **Das, S.** Uncovering behavioral risk patterns in U-turn crash severity using multimodal data and lift increase criterion in association rule mining. *SSRN Working Paper*, 2025. doi Link

2025 [PR24] Javed, S. A., Barua, S., Tusti, A. G., Polock, S. B. B., Chowdhury, T. I., and **Das, S.** Behavioral patterns and severity outcomes in e-scooter crashes: An association rule mining approach using the lift increase criterion. *SSRN Working Paper*, 2025. doi Link

2025 [PR23] Somvanshi, S., Sheley, R., Shuvo, S. A., Rafe, A., and **Das, S.** A survey on automated vehicles in low visibility and infrastructure-limited roadway settings. *SSRN Working Paper*, August 01, 2025. doi Link

2025 [PR22] Polock, S. B. B., Starewich, M., Barua, S., Tusti, A. G., Somvanshi, S., Alnawmasi, N., and **Das, S.** Behavioral and temporal dynamics of child pedestrian crash injury patterns: Evidence from random parameter modeling. *SSRN Working Paper*, 2025. doi Link

2025 [PR21] Javed, S. A., Chakraborty, R., Polock, S. B. B., Geedipally, S. R., Tamakloe, R., and **Das, S.** Uncovering age-specific patterns in cannabis-involved fatal crashes: A behavior-oriented association rule mining approach. *SSRN Working Paper*, 2025. doi Link

2025 [PR20] Polock, S. B. B., **Das, S.**, Chakraborty, R., Somvanshi, S., Islam, M. M., and Sheykhfard, A. Who leaves, when, and how? Dissecting evacuation choices from a survey of at-risk residents in the Western U.S. *SSRN Working Paper*, 2025. doi Link

2025 [PR19] Shevtekar, S., Maurya, C., Sil, G., and **Das, S.** Proactive fall detection for powered two-wheelers safety interventions: A cross-dataset benchmark on simulation collision data. *SSRN Working Paper*, October 15, 2025. doi Link

2025 [PR18] Tusti, A. G., Starewich, M., Barua, S., Chowdhury, T. I., Polock, S. B. B., Alnawmasi, N., and **Das, S.** Hybrid dimension reduction and random parameter logit models to classify crash severity in glare induced traffic crashes. *SSRN Working Paper*, 2025. doi Link

2025 [PR17] Brotee, S., Chhetri, G., Polock, S. B. B., Bellamkonda, V. S., Rafe, A., and **Das, S.** A Survey on Joint Embedding Predictive Architectures and World Models. *SSRN Working Paper*, November 16, 2025. doi Link

2025 [PR16] Chhetri, G., Somvanshi, S., Mimi, M. S., Ansari, M. W., Islam, M. M., Barua, S., and **Das, S.** Realism and causality in synthetic data generation: A survey. *SSRN Working Paper*, October 27, 2025. doi Link

2025 [PR15] Chhetri, G., Somvanshi, S., Hebli, P., Brotee, S., and **Das, S.** Post-Quantum Cryptography and Quantum-Safe Security: A Comprehensive Survey. *arXiv Preprint* arXiv:2510.10436, 2025. doi Link

2025 [PR14] Chhetri, G., Somvanshi, S., Islam, M. M., Brotee, S., Mimi, M. S., Koirala, D., Pandey, B., and **Das, S.** Model Context Protocols in Adaptive Transport Systems: A Survey. *arXiv Preprint* arXiv:2508.19239, 2025. doi Link

2025 [PR13] Somvanshi, S., Tusti, A. G., Mimi, M. S., Islam, M. M., Polock, S. B. B., Dutta, A., and **Das, S.** Applying MambaAttention, TabPFN, and TabTransformers to Classify SAE Automation Levels in Crashes. *arXiv Preprint* arXiv:2506.03160, 2025. doi Link

2025 [PR12] Hossain, A., Sakib, N., Asif, A. A., and **Das, S.** Patterns associated with fatal motorcycle-involved crashes in Bangladesh: Applying text mining techniques and structural topic modeling. *SSRN Working Paper*, October 17, 2025. doi Link

2025 [PR11] Somvanshi, S., Islam, M. M., Javed, S. A., Chhetri, G., Islam, K. S., Chowdhury, T. I., Polock, S. B. B., Dutta, A., and **Das, S.** *A Review on Influx of Bio-Inspired Algorithms: Critique and Improvement Needs* . doi Link

2025 [PR10] Somvanshi, S., Islam, M. M., Mimi, M. S., Polock, S. B. B., Chhetri, G., and **Das, S.** *From S4 to Mamba: A Comprehensive Survey on Structured State Space Models*. *arXiv* preprint arXiv:2503.18970. doi Link

2025 [PR09] Tusti, A. G., Dutta, A. K., Javed, S. A., and **Das, S.** *Driving Education Advancements of Novice Drivers: A Systematic Literature Review*. *arXiv* preprint arXiv:2503.05762. doi Link

2025 [PR08] Somvanshi, S., Barua, S., Liu, J., and **Das, S.** *Gen-AI for Transportation Planning*. *SSRN* (preprint). doi Link

2025 [PR07] Somvanshi, S., Islam, M. M., Polock, S. B. B., Chhetri, G., Anderson, D., Dutta, A., and **Das, S.** *Quantum Computing in Transportation Engineering: A Survey*. *SSRN* (preprint). doi Link

2025 [PR06] Javed, S. A., Tusti, A. G., Pandey, B., and **Das, S.** *From Maneuver to Mishap: A Systematic Literature Review on U-Turn Safety Risks*. *arXiv* preprint arXiv:2502.12556. doi Link

2025 [PR05] Somvanshi, S., Antariksa, G., and **Das, S.** *Enhanced Balanced-Generative Adversarial Networks to Predict Pedestrian Injury Types*. *SSRN* (preprint). doi Link

2025 [PR03] Hossain, A., **Das, S.**, Jafari, M., Junaed, S., and Codjoe, J. *Behavioral Insights into Older Driver Involved Crashes at High-Speed Signalized Intersections: A Random Parameter Ordered Probit Approach*. *SSRN* (preprint). doi Link

2024 [PR01] Somvanshi, S., **Das, S.**, Javed, S. A., Antariksa, G., and Hossain, A. *A Survey on Deep Tabular Learning*. *arXiv* preprint arXiv:2410.12034. doi Link

TALKS/WORKSHOPS

2022 [T22] Autonomous Delivery Vehicle as a Disruptive Technology: How to Shape the Future with a Focus on Safety? SafeD Virtual Webinar. Oct. 22.

2022 [T21] Texas Based Safety Research Projects. Virtual Webinar, UTSA. Apr. 21.

2021 [T20] A Real-Time Decision Support Tool for Rural Roadways. Austin. Nov. 29.

2021 [T19] New Frontiers in Highway Safety Research. UL Lafayette Civil Engineering Department Invited Talk (virtual). Nov. 24.

2021 [T18] Naturalistic Driving Studies with Focus on Novice Teenage Drivers: Research Challenges and Opportunities. American Statistical Association Invited Talks (virtual). Nov. 3.

2021 [T17] Application of Big Data in Highway Safety Modeling. Transportation Data Science Seminar Series, Texas A&M University Institute of Data Science, College Station. Mar. 11.

2019 [T16] Application of Natural Language Processing (NLP) in Transportation Studies. Texas A&M University ITE General Meeting, College Station, TX. Feb. 2.

2019 [T15] TxDOT Roadway Departure Safety Implementation Workshop. Lubbock, TX. Nov. 4.

2019 [T14] AADT Estimation Errors in Predicting Safety of Low-Volume Roadways. 98th TRB Annual Meeting, Washington, DC. Jan. 13.

2019 [T13] YouTube as a Source of Information in Understanding Autonomous Vehicle Consumers: An NLP Study. 98th TRB Annual Meeting, Washington, DC. Jan. 14.

2019 [T12] Injury Severity Analysis from Crash Narratives of Tree- and Utility Pole-Associated Crashes: An Interpretable Machine Learning Approach. 98th TRB Annual Meeting, Washington, DC. Jan. 15.

2019 [T11] Estimation of Traffic Volumes on Low-Volume Roads: Interpretable Machine Learning Approach. 98th TRB Annual Meeting, Washington, DC. Jan. 16.

2018 [T10] Using Deep Learning in Severity Analysis of At-Fault Motorcycle Rider Crashes. 97th TRB Annual Meeting, Washington, DC. Jan. 9.

2018 [T09] #TRBAM: Understanding Communication Patterns and Research Trends by Twitter Mining. 97th TRB Annual Meeting, Washington, DC. Jan. 9.

2017 [T08] Developing a Method for Estimating AADT on Local Roads. 2017 TRC Transportation Engineering Conference, Hot Springs, AR. May 17.

2017 [T07] Text Mining on 100 Years of Air Crash Narratives: Key Findings. 96th TRB Annual Meeting, Washington, DC. Jan. 11.

2017 [T06] Workshop on Text Mining in R: Understanding 100 Years of Air Crash Narratives. Texas A&M University ITE General Meeting, College Station, TX. Feb. 9.

2017 [T05] Workshop on R in Transportation Safety Research: Case Studies. Texas A&M University ITE General Meeting, College Station, TX. Feb. 7.

2017 [T04] Visualization Lightning Talk: Visual Analytics Using Web GIS Tools in Transportation Decision Making. 96th TRB Annual Meeting, Washington, DC. Jan. 11.

2016 [T03] Modeling in Roadway Safety: The Two Cultures. Texas A&M University ITE General Meeting, College Station, TX. May 17.

2015 [T02] Two-Day Workshop on Interactive Highway Safety Design Model (IHSDM). Civil Engineering Department, University of Louisiana at Lafayette, LA. Mar.

2014 [T01] Two-Day Workshop on Interactive Highway Safety Design Model (IHSDM). Civil Engineering Department, University of Louisiana at Lafayette, LA. Mar.

COURSES TAUGHT

2026 CE 7363: Road Infrastructure Safety, Texas State University (Spring session)

2024-2025 CE 7393: AI in Civil Engineering, Texas State University (Fall sessions)

2024-2025 CE 4362: Traffic Engineering, Texas State University (Fall sessions)

2022-2025 CE 4361: Highway Engineering, Texas State University (Fall and Spring sessions)

COURSES SUPERVISED

2013 Teaching Assistant, graduate-level course "Highway Safety Fundamental Course," University of Louisiana at Lafayette.

2012 Teaching Assistant, graduate-level course "Highway Safety Fundamental Course," University of Louisiana at Lafayette.

2011 Teaching Assistant, graduate-level course "Highway Safety Fundamental Course," University of Louisiana at Lafayette.

MEDIA

2025 Interview on Car Warranty. url Link

2025 Interview on Motor Vehicle Safety Inspection. *Marketplace*. url Link

2022 TTI News feature: "TTI's Das Publishes Book on *Artificial Intelligence in Highway Safety*." url Link

2021 TTI News feature: "Das Publishes Transportation Research Record Analysis in TR News." url Link

2021 Texas Transportation Research special issue: "Big Data Goes Country: Integrating Speed and Weather Measures to Study Rural Roadway Safety." url Link

2020 TTI News feature: "Winfree, Das Featured in *Traffic Technology International*." url Link

2020 Interview featured in *Traffic Technology International* (September issue). url Link

2020 Interview featured in *Star Tribune* (March 21). url Link

2018 #TRBAM analysis featured by NASEM TRB official social media handles.

2016 TRB Committee ABG40 newsletter *Kaleidoscope* featured Subasish's text mining paper.

2015 Eno Transportation Center online annual report highlighted Subasish's Eno fellowship.

2014 AASHTO newsletter "Research Makes Difference" featured Subasish's 2014 AASHTO Sweet Sixteen High Value Research award.

2014 AASHTO Research Impact 2014 newsletter featured Subasish's "4U to 5T" project.

2014 LTRC newsletter featured Subasish's 2014 AASHTO Sweet Sixteen High Value Research award.

2013 GRITS newsletter highlighted Subasish's First Place Scholarship for Academic Excellence.

MENTORING

Dissertation Supervision

[06] Chair, *Analysis of Association between Demographic, Socioeconomic, and Built Environment Factors and Pedestrian Safety using Traditional and AI Approaches.* Ph.D. Dissertation, Shriyank Somvanshi (MSEC), Texas State University, Spring 2026.

[05] Co-Chair, *Using Real-Time Ground Truth Data to Assess Estimated Air Pollution on Transportation Routes in the Greater Austin, Texas Area.* Ph.D. Dissertation, David Mills (Geography), Texas State University, Spring 2026.

[04] Committee Member, *AI-driven modelling and simulator-based analysis of unsafe riding behavior and fall/collision detection for motorized two-wheeler riders.* Ph.D. Dissertation, Sumit S. Shevtekar (Computer Science), Indian Institute of Technology Indore, India, 2026.

[03] Committee Member, *Lateral distribution of Internal Combustion Engine and Electric Vehicle mixed traffic.* Ph.D. Dissertation, Md Mahede Hasan Khan (Civil Engineering), Texas State University, Spring 2026.

[02] Committee Member, *Managing Mixed Traffic with Electric Vehicles: Lessons for Future Traffic Control and Operations.* Ph.D. Dissertation, Tasnim Majumder (Civil Engineering), Texas State University, Spring 2026.

[01] Co-Chair, *Analysis of Association between Demographic, Socioeconomic, and Built Environment Factors and Pedestrian Safety using Traditional and AI Approaches.* Ph.D. Dissertation, Jinli Liu (Geography), Texas State University, Fall 2024.

Thesis Supervision

[20] Chair, *AI-Augmented Traffic Conflict Analysis Using Video-Based Surrogate Safety Metrics.* M.S. Thesis, Md Monzurul Islam (Civil Engineering), Texas State University, Spring 2026.

[19] Chair, *Bike lane involved crash severity: Heterogeneity, Temporal Stability, and Policy Implications.* M.S. Thesis, Sazzad Bin Bashar Polock (Civil Engineering), Texas State University, Spring 2026.

[18] Co-Chair, *Assessing Roadway Network Risk to Compound Flooding in Galveston County, Texas: An Integrated Hydrodynamic and Machine Learning Approach.* M.S. Thesis, Md Shah Mominul Islam Momin (Civil Engineering), Texas State University, Spring 2026.

[17] Committee Member, *A Scalable and Decentralized Reinforcement Learning Framework for Domain-Agnostic and Uncertainty-Aware Multi-Agent System.* M.S. Thesis, Kazi Sifatul Islam (Electrical Engineering), Texas State University, Spring 2026.

[16] Committee Member, *Behavior of Transverse Cracks in Continuously Reinforced Concrete Pavement under*

Environmental Loadings. M.S. Thesis, Md Saiful Islam (Civil Engineering), Texas State University, Spring 2026.

[15] Chair, *Artificial Intelligence and Spatial Modeling to Estimate Traffic Volume Measures on Local Roadways.* M.S. Thesis, Mahmuda Sultana Mimi (Civil Engineering), Texas State University, Summer 2025.

[14] Chair, *Analyzing Motorcycle Crashes on Rural Undivided Roads: A Data-Driven Approach.* M.S. Thesis, Swastika Barua (Civil Engineering), Texas State University, Summer 2025.

[13] Chair, *Exploring Latent Patterns in U-Turn Crashes: A Dual-Model Approach Using Association Rules Mining and Cluster Correspondence Analysis.* M.S. Thesis, Sayed Aaqib Javed (Civil Engineering), Texas State University, Summer 2025.

[12] Chair, *Evaluating Crash Characteristics and Safety Outcomes at Roundabouts: Implications for Safer Intersections.* M.S. Thesis, Rohit Chakraborty (Civil Engineering), Texas State University, Summer 2025.

[11] Committee Member, *The Innovative Use of Phase Change Material Covers in Mitigating Early Age Thermal Cracks in Concrete Pavement.* M.S. Thesis, Alif Bin Hussain (Civil Engineering), Texas State University, 2025.

[10] Committee Member, *Investigating the Impact of COVID-19 on Mobility Condition.* M.S. Thesis, Sandip Acharya (Transportation Engineering), Texas Southern University, 2022.

[09] Committee Member, *Geo-informed Deep Learning for Spatial Downscaling of Solute Transport in Heterogeneous Porous Media.* M.S. Thesis, Nikhil Pawar (Civil Engineering), Texas State University, 2022.

[08] Committee Member, *Predicting Critical Shear Stress of Riverbed Soils with Plasticity.* M.S. Thesis, Muhammad Tasnim Alam (Civil Engineering), Texas State University, 2022.

[07] Committee Member, *Investigating the Impact of Roadway Geometry, Speed Distribution, and Weather Condition on Roadway Daily Crash Occurrence and Severity using Machine Learning Methods.* M.S. Thesis, Zihang Wei (Civil Engineering), Texas A&M University, 2021.

[06] Committee Member, *Vehicle Category Classification based on GPS Trajectory Data.* M.S. Thesis, Ruihong Wang (Computer Science), Texas A&M University, 2020.

[05] Mentor, *Investigating Safety Effectiveness of Centerline Rumble Strips on Rural Two-Lane Roads in Louisiana with Empirical Bayes Method.* M.S. Thesis, M. A. Rahman (Civil Engineering), University of Louisiana at Lafayette, 2016.

[04] Mentor, *Development of Crash Prediction Models for Transportation Planning Analysis.* M.S. Thesis, N. Broussard (Civil Engineering), University of Louisiana at Lafayette, 2015.

[03] Mentor, *Estimating Annual Average Daily Traffic for Non-State Roads in Louisiana.* M.S. Thesis, C. W. LeBoeuf (Civil Engineering), University of Louisiana at Lafayette, 2014.

[02] Mentor, *Analyzing the Safety Impact of Crash-Prone Drivers in Louisiana.* M.S. Thesis, F. Wang (Civil Engineering), University of Louisiana at Lafayette, 2013.

[01] Mentor, *Safety Effectiveness of Raised Pavement Markers.* M.S. Thesis, S. Rasel (Civil Engineering), University of Louisiana at Lafayette, 2012.

Postdoctoral Research Associates

[05] Amir Rafe, Ph.D., Texas State University (Sept. 2025–present).

[04] Jinli Liu, Ph.D., Texas State University (Jan. 2025–June 2025).

[03] Ahmed Hossain, Ph.D., Texas State University (2024–Feb. 2025).

[02] Gian Antariksa, Ph.D., Texas State University (Jan. 2023–Dec. 2024).

[01] Md. Nasim Khan, Ph.D., Texas State University (2022–2023).

Ph.D. Students

[14] Sawgat Ahmed Shuvo (Civil Engineering), Texas State University (2025–present).

[13] Shriyank Somvanshi (MSEC), Texas State University (2023–present).

[12] M. M. Mahabubur Rahman (Computer Science), Texas State University (2023).

[11] Jinli Liu (Geography), Texas State University (2022–2024).

[10] David Mills (Geography), Texas State University (2022–present).

[09] Amir Hossein Oliaee (Architecture), Texas A&M University (2022).

[08] Nuzhat Kabir (Civil Engineering), Texas A&M University (2022).

[07] Musfira Rahman (Civil Engineering), Texas A&M University (2021).

[06] Yanmo Wang (Civil Engineering), Texas A&M University (2021–2022).

[05] Zihang Wei (Civil Engineering), Texas A&M University (2020–2022).

[04] Ali Khodadadi (Civil Engineering), Texas A&M University (2019–2021).

[03] Shruti Ashraf (Civil Engineering), Texas A&M University (2018–2019).

[02] Chaolun Ma (Civil Engineering), Texas A&M University (2018–2019).

[01] Songjukta Datta (Civil Engineering), Texas A&M University (2017–2018).

M.S. Students

[39] Arka Chakraborty (Civil Engineering), Texas State University (2025–present).
[38] Anika Baitullah (Civil Engineering), Texas State University (2025–present).
[37] Sharif Ahmed Rafat (Civil Engineering), Texas State University (2025–present).
[36] Shamyo Brotee (Computer Science), Texas State University (2025–present).
[35] Salma Akter Laboni (MBA), Texas State University (2025–present).
[34] Md. Wasim Ansari (Data Analytics and Information Systems), Texas State University (2025–present).
[33] Venkata Surya Bellamkonda (DAIS), Texas State University (2025–present).
[32] Pavan Helbi (Data Analytics and Information Systems), Texas State University (2025–present).
[31] Tausif Islam Chowdhury (Civil Engineering), Texas State University (2025–present).
[30] Sazzad Bin Bashar Polock (Civil Engineering), Texas State University (2024–present).
[29] Anannya Ghosh Tusti (Civil Engineering), Texas State University (2024–present).
[28] Md Monzurul Islam (Civil Engineering), Texas State University (2024–present).
[27] Rawand Almadi (Civil Engineering), Texas State University (Aug. 2024–Dec. 2024).
[26] Michael Starewich (Mathematics), Texas State University (2024–present).
[25] Rohit Chakraborty (Civil Engineering), Texas State University (2023–present).
[24] Mahmuda Sultana Mimi (Civil Engineering), Texas State University (2023–present).
[23] Syed Aaqib Javed (Civil Engineering), Texas State University (2023–present).
[22] Swastika Barua (Civil Engineering), Texas State University (2023–present).
[21] Monire Jafari (Data Analytics and Information Systems), Texas State University (2023–2025).
[20] Catalina Gonzalez (Civil Engineering), Texas State University (2023).
[19] Maheshchandra S. Churi (Data Analytics and Information Systems), Texas State University (2023).
[18] Chandrika Reddy Kamjula (Data Analytics and Information Systems), Texas State University (2022).
[17] Janakiram Saripalli (Computer Science), Texas State University (2022).
[16] Vikram Agarwal (Civil Engineering), Texas A&M University (2020–2021).
[15] Ruihong Wang (Electrical and Computer Engineering), Texas A&M University (2019–2020).
[14] Nabila Nazneen (Chemical Engineering), Texas A&M University (2019–2020).
[13] Samia Tasnim (Public Health), Texas A&M University (2018–2019).
[12] Nusrat Trisha (Public Health), Texas A&M University (2019–2021).
[11] Tahmida Shimu (Civil Engineering), Texas A&M University (2018–2019).
[10] Bita Maraghehpour (Public Health), Texas A&M University (2017–2019).
[09] Apoorba Bibeka (Civil Engineering), Texas A&M University (2016–2019).
[08] Yucong Du (Civil Engineering), Texas A&M University (2016–2017).
[07] Sadia Najneen (Public Health), Texas A&M University (2018–2019).
[06] Isha Narsaria (Civil Engineering), Texas A&M University (2018–2019).
[05] Noor-A Nazia (Computer Science), Texas A&M University (2018–2019).
[04] Condor Manaswini (Civil Engineering), Texas A&M University (2018–2019).
[03] Alence Poudel (Civil Engineering), Texas A&M University (2018–2019).
[02] Bharadwaj Bommanayakanahalli (Civil Engineering), Texas A&M University (2016–2017).
[01] Tamanna Tasnum (Construction Science), Texas A&M University (2016).

Undergraduate Students

[31] Bidisha Shresta (Civil Engineering), Texas State University (2025–present).
[30] Irfan Sarwar Pranjol (Industrial Engineering), Texas State University (2025–present).
[29] Pradicta Bhattacharjee (Industrial Engineering), Texas State University (2025–present).
[28] Dipti Koirala (Electrical Engineering), Texas State University (2025–present).
[27] Gaurab Chhetri (Computer Science), Texas State University (2025–present).
[26] Biplov Pandey (Civil Engineering), Texas State University (2025–present).
[25] Nick Hardin (Computer Science), Texas State University (2024).
[24] Jett Tipsword (Computer Science), Texas State University (2023–2025).
[23] Darrel Anderson (Civil Engineering), Texas State University (2023–present).
[22] Khaled Aly Abousabaa (Civil Engineering), Texas State University (2023–2024).

[21] Diana Mendez Garcia (Civil Engineering), Texas State University (2023–2024).
[20] Manan Patel (Civil Engineering), Texas State University (2023).
[19] Juan Gonzalez (Civil Engineering), Texas A&M University (2022–2023).
[18] Valerie Vierkant (Psychology), Texas A&M University (2019–2023).
[17] Jaxson Murray (Civil Engineering), Texas A&M University (2022).
[16] Ashley Trujillo (Civil Engineering), Texas A&M University (2021–2022).
[15] Vinesh Ravuri (Computer Science), Texas A&M University (2021).
[14] Magdalena Theel (Psychology), Texas A&M University (2017–2020).
[13] Turzo Bose (Chemical Engineering), HUST (2018).
[12] Jared Wheeler (Computer Science), Texas A&M University (2018).
[11] Tyler Sizemore (Mechanical Engineering), Texas A&M University (2018–2019).
[10] Matthew Foley (Civil Engineering), Texas A&M University (2018–2019).
[09] Christopher Lira (Civil Engineering), Texas A&M University (2017–2018).
[08] Ly-Na Tran (Biomedical Science), Texas A&M University (2017–2019).
[07] Jacob Bruce (Civil Engineering), Texas A&M University (2019–present).
[06] Elizabeth Clark (Civil Engineering), Virginia Tech (2017).
[05] Anthony Teo (Computer Science and Engineering), Texas A&M University (2018–2019).
[04] Urel Djiogan (Computer Science and Engineering), Texas A&M University (2019).
[03] Richard Padilla (Computer Science and Engineering), Texas A&M University (2018–2019).
[02] Daxton Davidson (Civil Engineering), Texas A&M University (2018).
[01] Michelle Zupancich (Civil Engineering), Texas A&M University (2016).

CV Date: 12/28/2025