TEXAS STATE UNIVERSITY

AIT LAB

PRESENTATION SCHEDULE

TRANSPORTATION RESEARCH BOARD
105TH ANNUAL MEETING
JANUARY 12-14, 2026 | WASHINGTON, D.C.

8:00-9:45 MON, JAN 12 (HALL A)

- Coastal Flooding on Transportation Infrastructures: A Systematic Review of Patterns, Impacts and Methodologies (A108)
  M. S. M. I. Momin, E. Cho, E. Cho (NASA GSFC), S. Das
- Spatially-Enhanced AutoGluon for Estimation of Annual Average Daily Traffic on Local Road Networks (A130)
  J. Liu, S. Barua, S. Somvanshi, R. Chakraborty, S. Das
- Artificial Intelligence and Spatial Modeling to Estimate Traffic Volume Measures on Local Roadways (A131)
  M. S. Mimi, Y. Yuan, X. Huang (EU), S. Das
- Deep Learning-Based Trespassing Surveillance System for Enhancing Safety at Highway-Rail Grade Crossings (B494)
  M. M. Islam, T. I. Chowdhury, A. G. Tusti, S. Das
- Understanding Pedestrian Trespassing at U.S. Highway-Rail Grade Crossings: A Decade-Long Analysis Integrating Topic Modeling and Spatial Tools (B503)
  M. M. Islam, S. Barua, T. I. Chowdhury, A. G. Tusti, S. Das
- Identifying Latent Structures in Fatal Highway-Rail Grade Crossing Crashes using Dimensionality Reduction Methods (B504)
  R. Chakraborty, T. I. Chowdhury, A. Chakraborty, A. Baitullah, B. Kutela (TTI), S. Das
- Uncovering Patterns in E-Scooter Crash Severity Using the Lift Increase Criterion in Association Rule Mining (B516)
  S. Javed, S. Barua, A. G. Tusti, S. B. B. Polock, T. I. Chowdhury, S. Das
- Fusing Text and Tabular Intelligence: A Hybrid AutoML Approach to E-Scooter Crash Severity Analysis (B517)
  J. Liu, S. Barua, R. Chakraborty, M. M. Islam, S. Das
- Evaluating the Influence of Intersection Contexts on Urban E-Scooter Crash Severity using Structural Topic Modeling of Crash Narratives (B518)
  S. Barua, S. Somvanshi, S. Javed, B. Pandey, S. Das
- Prompting Without Labels: Zero- and Few-Shot LLM Performance on e-Scooter Crash Prediction Tasks (B519)
  M. M. Islam, M. S. Mimi, S. Somvanshi, A. G. Tusti, G. Chhetri, S. Das

10:30-12:15 MON, JAN 12 (CC, 146C) LS# 2043

- Behavioral Modeling of Drivers near Speed Control Cameras: A Dual Perspective from Micro and Macro Data ★
  A. Sheykhfard (TSU), T. Lei (TSU), S. Saeidi (FAU), M. S. Taherkhani (UoM), G. Fountas (AUTh), S. Das, E. Kaisar (FAU)

10:30-12:15 MON, JAN 12 (HALL A)

- Investigating Older Driver Involved Crashes at High-Speed Signalized Intersections (HSSIs): A Random Parameter Ordered Probit Approach (A130)
  A. Hossain, S. Das, M. Jafari, S. Junaed (Neel-Schaffer), J. Codjoe (LaDOTD)
- Cooperative Dynamics in Older Age and Human-Automation Interactions in Automated Vehicle Crashes (A131)
  A. G. Tusti, S. Barua, R. Chakraborty, S. Somvanshi, M. S. Mimi, S. Das

10:30-12:15 MON, JAN 12 (HALL A)

- Driving Education Advancements of Novice Drivers, A Review of Studies in the United States (A132)
  A. G. Tusti, A. Dutta, S. Javed, S. Das
- Explainable Machine Learning for Analyzing Factors Influencing Emergency Medical Services Response Times on Interstate Highways (A240)
  N. Sakib (AU), M. A. Rahman (LTRC), S. Junaed (Neel-Schaffer), A. Khan (LaDOTD), S. Das, M. Moomen (UL Lafayette), J. Codjoe (UL Lafayette), V. Gopu (UL Lafayette)
- Explainable AI-Driven Hybrid Modeling for Crash Severity Analysis Near Bus Stops in Urban Areas (B559)
  S. Barua, R. Chakraborty, J. Liu, M. S. Mimi, B. Pandey, S. Das

16:00-17:45 MON, JAN 12 (HALL A)

- Perceived Safety of Automated Vehicles: A Bayesian Network Analysis of Predictors and Implications for Ridership and Road Sharing (A284)
  F. Kasubi (HNTB), B. Kutela (TTI), A. Hossain, S. Das, A. Kinero (Shrewsberry)
- ST-GraphNet: A Spatio-Temporal Graph Neural Network for Understanding and Predicting Automated Vehicle Crash Severity (B430)
  M. S. Mimi, M. M. Islam, A. G. Tusti, S. Somvanshi, S. Das
- The Negative Binomial Lindley Model with Spatiotemporal Random Parameters: Accounting for Spatiotemporal Effects in Crash Data Analysis (B431)
  R. Dzinyela (TTI), M. Shirazi (OU), S. Das, D. Lord (TAMU)
- Revealing Contextual Patterns in Cannabis-Involved Fatal Crashes Using Data-Driven Association Mapping (B462)
  R. Chakraborty, S. B. B. Polock, B. Pandey, S. A. Shuvo, K. Dey (MSU), S. Das
- Analyzing Underage Drinking and Driving Crashes Using a Correlated Random Parameters with Heterogeneity in Means Approach (B485)
  M. A. Rahman (LTRC), S. Das, S. Junaed (UL Lafayette), R. Dzinyela (TTI), A. Hossain, E. Mitran (UL Lafayette), M. Moomen (UL Lafayette), J. Codjoe (UL Lafayette), X. Sun (UL Lafayette)
- Analyzing Alcohol-Impaired Multi-Occupant Crashes through Hybrid Dimension Reduction and the Safe System Lens (B493)
  S. Barua, R. Chakraborty, B. Dadashova (TTI), A. Sheykhfard (TSU), S. Das

18:15-19:45 MON, JAN 12 (HALL A)

- Unmasking Vehicle Automation–Severity Interactions through Multimodal Association Rules Mining (B493)
  R. Chakraborty, M. M. Islam, S. Somvanshi, S. Barua, S. Das
- Crash Severity Prediction in AEB-Equipped Vehicles Using Advanced Tabular Deep (B494)
  S. Somvanshi, M. M. Islam, S. Javed, S. Das

8:00-9:45 TUE, JAN 13 (CC, 201) LS# 3018

- Quantifying Factors that Impact Ride-Hailing Use Among Older Californians ★
  S. Das

8:00-9:45 TUE, JAN 13 (HALL A)

- Pedestrian Fatalities on U.S. Interstates: A Pattern Mining Approach to Investigating Pedestrian Actions and Policy Implications (A160)
  M. A. Rahman (LTRC), T. Tolford (UoNO), S. Junaed (Neel-Schaffer), S. Das, A. Hossain, M. Moomen (UL Lafayette), E. Mitran (UL Lafayette), J. Codjoe (UL Lafayette)

★ Indicates lectern session, poster session otherwise

Note: *Name without any affiliation indicates affilated with TXST. Poster papers are listed with (Board #); lectern sessions are listed with (LS#).*

INTERACTIVE SCHEDULE

The Artificial Intelligence in Transportation Lab (AIT Lab), directed by Dr. Subasish Das, advances roadway safety, traffic operations, and CAV systems through data intensive research, combining statistical modeling, AI, spatial analytics, and modern web GIS with interactive visualization and decision support tools. Since 2022, the AIT Lab has managed over $5 million in externally funded research, supporting more than 20 projects funded by NASEM, TxDOT, MnDOT, NSF, FRA, and the AAA Foundation.

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8:00-9:45 TUE, JAN 13 (HALL A)

- Semantic Modeling of Pedestrian Behaviors at Shared-Use Path Crossings in Major Cities: Insights from BERT-Based Architectures and Structural Topic Modeling (A166)
  M. S. Mimi, M. M. Islam, S. Das, A. Dutta, B. Dadashova (TTI)
- Enhanced Balanced-Generative Adversarial Networks to Predict Pedestrian Injury Types (A167)
  S. Somvanshi, G. Antariksa, S. Das
- Decoding Pedestrian Crash Complexity at Crosswalks using Hybrid Dimension Reduction and Random Parameter Models (A168)
  S. Barua, M. Starewich, A. G. Tusti, S. Javed, N. Alnawmasi (TAMU), S. Das
- Understanding Contributing Factors to Pedestrian Failure-to-Yield Fatal Crashes: Maneuvers Classification Using AutoML and Model Interpretability Techniques (A170)
  M. S. Mimi, M. M. Islam, A. G. Tusti, T. I. Chowdhury, S. Das
- Assessing Roadway Network Risk to Compound Flooding in Galveston County, Texas: An Integrated Hydrodynamic and Machine Learning Approach (B581)
  M. S. M. I. Momin, E. Cho, E. Cho (NASA GSFC), S. Das

10:30-12:15 TUE, JAN 13 (CC, 202A) LS# 3050

- Assessing the Impact of Road and Roadside Features on Safety in Urban Highways: A Case Study in Red Wing City, Minnesota ★
  M. Karasneh (MSU), K. Dey (MSU), M. T. Ashraf (TTI), A. Mohan (MSU), P. Savolainen (MSU), T. Gates (MSU), S. Das

10:30-12:15 TUE, JAN 13 (HALL A)

- Crash Pattern Mining by SAE Automation Levels and Severity (B450)
  R. Chakraborty, S. Javed, M. M. Islam, J. Liu, S. Das, B. Kutela (TTI)
- Uncovering Risk Patterns in Single and Multiple Ambulance Crashes with Association Rules Mining (B451)
  S. Javed, R. Chakraborty, A. Hossain, S. Das
- Analyzing Factors Influencing Crash Severity in Vehicles with Automation Features using AutoGluon (B452)
  J. Liu, R. Chakraborty, S. B. B. Polock, S. Javed, N. Alnawmasi (TAMU), S. Das
- Applying MambaAttention, TabPFN, and TabTransformers to Classify SAE Automation Levels in Crashes (B482)
  S. Somvanshi, A. G. Tusti, M. S. Mimi, M. M. Islam, A. Dutta, S. Das
- Attention-Based and State-Space Models for Predicting Electric Vehicle Crash Severity (B525)
  S. Somvanshi, P. Hebli, G. Chhetri, S. Das

13:30-15:15 TUE, JAN 13 (HALL A)

- Crash Risk Analysis of Non-Motorists using Interpretable Tabular Deep Learning (B401)
  M. M. Islam, A. G. Tusti, M. S. Mimi, S. Somvanshi, S. Das
- Hybrid Dimension Reduction and Explainable AI Models to Explore Truck Crash Patterns at Intersections (B423)
  M. S. Mimi, M. M. Islam, A. G. Tusti, S. Das

16:00-17:45 TUE, JAN 13 (HALL A)

- Uncovering Robust Patterns in U-Turn Crash Severity Using Lift Increase Criterion in Association Rule Mining using Multimodal Data (A235)
  S. Javed, S. Das

8:00-9:45 WED, JAN 14 (CC, 146C) LS# 4002

- A Multidimensional Analysis of E-Scooter Crash Severity: Integrating Cluster Correspondence and SHAP Interpretability ★
  M. M. Islam, R. Chakraborty, A. G. Tusti, K. Aghabayk (UTehran), S. Das

8:00-9:45 WED, JAN 14 (HALL A)

- A Dimensionality-Reduction based XAI Framework for Roundabout Crash Severity Insights (B401)
  R. Chakraborty, S. Das

10:30-12:15 WED, JAN 14 (HALL A)

- Evaluating State DOT Practices and Priorities in Pavement Marking Implementation and Maintenance: Insights from Multi-State Interviews and Comparative Analysis (A152)
  A. Hasan (NJDOT), M. A. Nayeem (STV), D. Patel (AtkinsRealis), M. S. Islam (RU), M. Jalayer (RU), S. Das, A. Pike (TTI)
- On Any Sunday and Beyond: A SHAP-Enabled Random-Parameters Analysis of Older Motorcyclist Injury Severity (B410)
  M. Starewich, S. Barua, A. G. Tusti, S. Javed, S. B. B. Polock, T. I. Chowdhury, S. Das
- Accounting for Unobserved Heterogeneity in Predicting Crash Injury Severities Among Young Motorcycle Riders (B411)
  A. G. Tusti, M. Starewich, S. Barua, S. Javed, S. B. B. Polock, S. Das
- Advancing Crash Severity Prediction for Young Riders Using Tabular Data Intelligence (B412)
  S. Somvanshi, A. G. Tusti, R. Chakraborty, B. Kutela (TTI), S. Das
- Patterns Associated with Fatal Motorcycle-Involved Crashes in Bangladesh: Applying Text Mining Techniques and Structural Topic Modeling (B413)
  A. Hossain, N. Sakib (AU), A. A. Asif (BUET), S. Das
- Temporal Patterns and Risk Factors in Food Delivery Vehicle Crashes: Evidence from Structural Topic Modeling of Daytime and Nighttime Incidents (B414)
  S. Barua, G. Chhetri, T. I. Chowdhury, B. Pandey, S. Das
- Analyzing Motorcycle Crashes on Rural Undivided Roads: A Data-Driven Approach (B415)
  S. Barua, A. Dutta, S. Das

Meet the AIT Lab team at TRBAM 2026 and engage in conversations on transportation safety, AI-enabled analytics, and evidence-based research supporting safer, smarter, and more resilient mobility systems.

Scan the QR code to learn more about AIT Lab's research activities, ongoing projects, team, and publications.

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