Samiul Hasan

Curriculum Vitae

Office Address:
Department of Civil, Environmental, and Construction Engineering
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EDUCATION

2013 **Doctor of Philosophy (Ph.D.)**
Transportation Engineering
Purdue University
Dissertation: Modeling Urban Mobility Dynamics Using Geo-location Data
INFORMS TSL Society Best Dissertation Award Winner

2007 **Master of Science (M.Sc.)**
Civil and Transportation Engineering
Bangladesh University of Engineering & Technology (BUET)
Thesis: Development of a Travel Demand Model for Dhaka City

2004 **Bachelor of Science (B.Sc.)**
Civil Engineering
Bangladesh University of Engineering & Technology (BUET)

EMPLOYMENT

August 2016 – Present
Assistant Professor
Department of Civil, Environmental and Construction Engineering
University of Central Florida
Orlando, Florida, USA

September 2013 – August 2016
Postdoctoral Research Fellow
Liveable, Sustainable, and Resilient Cities Program
Commonwealth Scientific and Industrial Research Organisation (CSIRO)
Melbourne, Victoria, Australia.

August 2009 – August 2013
Graduate Research Assistant
School of Civil Engineering, Purdue University
West Lafayette, Indiana, USA.

July 2008 – August 2008
Research Engineer
Road Network and Performance Research Group
Transport for London, UK

September 2007 – May 2009	Graduate Research Assistant Intelligent Transportation Systems Laboratory Massachusetts Institute of Technology Cambridge, Massachusetts, USA.
December 2004 – August 2007	Lecturer Bangladesh University of Engineering and Technology Dhaka, Bangladesh.

HONORS AND AWARDS

- **U.S. DOT Solving for Safety Visualization Challenge Winner,** Member of the UCF Team led by Dr. Mohamed Abdel-Aty, November 2019.
- **Honorable Mention Award**, received by Samiul Hasan and Kamol C. Roy for the submission "Uncovering the Impact of Climate Stress on Human Mobility and Resilience Using Mobile Phone Data" in *Data for Climate Action Challenge* organized by UN Global Pulse, October 2017.
- **Best Dissertation Award 2014** for Ph.D. dissertation on "Modeling Urban Mobility Dynamics using Geo-location Data", Transportation Science & Logistics (TSL) Society, the Institute for Operations Research and the Management Sciences (INFORMS).
- **Outstanding Graduate Student Research Award,** 2013, Purdue College of Engineering for excellence in research in the School of Civil Engineering.
- **Fulbright Science and Technology Fellow**, 2007-2010, Department of State, USA.
- **Prime Minister's Gold Medal**, 2005, for the best academic performance across all the departments in the faculty of Civil Engineering of BUET.
- **Malik Akram Hossain Gold Medal**, 2005, for securing the highest CGPA in the B.Sc. in Civil Engineering Examination at BUET.

Awards to my students:

- **CECS 2019 Outstanding Master's Thesis Award**, received by Rezaur Rahman in the College of Engineering and Computer Science from the University of Central Florida, January 2020.
- **Outstanding Master's Thesis Award**, received by Kamol C. Roy in the Engineering, Physical Sciences and Life Sciences category from the University of Central Florida Graduate Council, February 2019.
- **Best Poster Award**, received by Rezaur Rahman at SAFER-SIM Symposium held in the University of Central Florida, Orlando, February 2018.
- **First Prize**, received by Kamol C. Roy and Md. Mehedi Hasnat at Transportation Data Challenge organized by NSF Midwest Big Data Hub held in Nebraska Transportation Center of the University of Nebraska, Lincoln, October 2017.

Research Experience

Research Interests:

Methodological Areas: Machine learning, trajectory data mining, deep learning, network modeling, agent-based modeling, and traffic simulation.
Application Areas: Smart cities, transportation systems analysis, disaster management, human mobility, social media analytics, ride-hailing services, hurricane evacuation, and infrastructure disruptions.

List of Publications:

Total **43** journal papers (**26** after joining UCF, **12** with my student/s) and **31** conference proceedings (**22** after joining UCF, **17** with my student/s). Publications have been cited **3,000** times with *h*-index **24** (*Google Scholar as of September 2021*).

Refereed Journal Papers (* indicates my student as a co-author)

1. Roy, K. C.*, **Hasan, S.,** Culotta, A. and Eluru, N. Predicting Traffic Demand during Hurricane Evacuation Using Real-time Data from Transportation Systems and Social Media. *Transportation Research Part C: Emerging Technologies*, 131, 103339.
2. Rahman, R.*, **Hasan, S.** and Zaki, M. H. Towards reducing the number of crashes during hurricane evacuation: Assessing the potential safety impact of adaptive cruise control systems. *Transportation Research Part C: Emerging Technologies*, 128, 103188.
3. Rahman, R.*, Bhowmik, T., Eluru, N., and **Hasan, S.** Assessing the crash risks of evacuation: A matched case-control approach applied over data collected during Hurricane Irma. *Accident Analysis and Prevention*, 159, 106260.
4. Roy, K. C.* and **Hasan, S.** 2021. Modeling the dynamics of hurricane evacuation decisions from twitter data: An input output hidden Markov modeling approach. *Transportation Research Part C: Emerging Technologies*, 123, 102976.
5. Rahman, R.*, Shabab, R. K., Roy, K. C.*, Zaki, M. H., and **Hasan, S.** 2021. Real-time Twitter data mining approach to infer user perception toward active mobility. *Transportation Research Record*, https://doi.org/10.1177/03611981211004966.
6. Rahman, R.* and **Hasan, S**. 2021. Real-time signal queue length prediction using long short-term memory neural network. *Neural Computing and Applications*, 33, 3311–3324.
7. Roy, K. C.*, **Hasan, S.**, and Mozumder, P. 2020. A multilabel classification approach to identify hurricane-induced infrastructure disruptions using social media data. *Computer-Aided Civil and Infrastructure Engineering*, 35 (12), 1387– 1402.
8. Roy, K. C.*, **Hasan, S.**, Sadri, A. M., and Cebrian, M. 2020. Understanding the efficiency of social media based crisis communication during hurricane Sandy. *International Journal of Information Management*, 52, 102060.
9. Sadri, A. M., **Hasan, S.**, Ukkusuri, S. V., and Cebrian, M. 2020. Exploring network properties of social media interactions and activities during Hurricane Sandy. *Transportation Research Interdisciplinary Perspectives*, 6, 100143.

10. Yu, X., Ivey, C., Huang, Z., Gurram, S., Sivaraman, V., Shen, H., Eluru, N., **Hasan, S.**, Henneman, L., Shi, G., Zhang, H., Yu, H., Zheng, J. 2020. Quantifying the impact of daily mobility on errors in air pollution exposure estimation using mobile phone location data. *Environment International*, 141, 105772.
11. Yue, L., Abdel-Aty, M., Wu, Y., **Hasan, S.**, and Zheng, O. 2020. Identifying pedestrian crash contributing factors using association analysis and their implications for development of active pedestrian safety system. *Transportation Research Record*, 2674(8), 861-874.
12. Tonmoy, F. N., **Hasan, S.**, and Tomlinson, R., 2020. Increasing coastal disaster resilience using smart city frameworks: Current state, challenges, and opportunities. *Frontiers in Water*, 2, 3.
13. Roy, K. C.*, Cebrian, M., and **Hasan, S.** 2019. Quantifying human mobility resilience to extreme events using geo-located social media data. *EPJ Data Science*, 8(1), 18.
14. Hasnat, M. M.*, Faghih-Imani, A., Eluru, N., and **Hasan, S.** 2019. Destination choice modeling using location-based social media data. *Journal of Choice Modelling*, 31, 22-34.
15. Rahman, R.*, Roy, K. C.*, Abdel-Aty, M., and **Hasan, S.** 2019. Sharing Real-time Traffic Information with Travelers using Twitter: An Analysis of Effectiveness and Information Content. *Frontiers in Built Environment*, 5, 83.
16. Rahman, S., Abdel-Aty, M., **Hasan, S.**, and Cai, Q. 2019. Applying machine learning approaches to analyze the vulnerable road-users' crashes at statewide traffic analysis zones. *Journal of Safety Research*, 01585.
17. Yu, X., Stuart, A. L., Liu, Y., Ivey, C. E., Russell, A. G., Kan, H., Henneman, L. R.F., Sarnat, S. E., **Hasan, S.**, Sadmani, A., Yang, X., and Yu, H. 2019. On the accuracy and potential of Google Maps location history data to characterize individual mobility for air pollution health studies. *Environmental Pollution*, 252, 924-930.
18. Sadri, A. M., **Hasan, S.**, and Ukkusuri, S. V. 2019. Joint inference of user community and interest patterns in social interaction networks. *Social Network Analysis and Mining*, 9(1), 11.
19. Park, J., Lee, H., Park, C.Y., **Hasan, S.**, Heo, T.Y. and Lee, W.H. 2019. Algal Morphological Identification in Watersheds for Drinking Water Supply Using Neural Architecture Search for Convolutional Neural Network. *Water*, 11(7), p.1338.
20. Hasnat, M. M.*, and **Hasan, S.** 2018. Identifying tourists and analyzing spatial patterns of their destinations from location-based social media data. *Transportation Research Part C,* 96, 38-54.
21. Sadri, A. M., **Hasan, S.**, Ukkusuri, S. V., and Lopez, J. E. S. 2018. Analysis of social interaction network properties and growth on Twitter. *Social Network Analysis and Mining*, 8(1), 56.
22. Sadri, A. M., **Hasan, S.**, Ukkusuri, S. V., and Cebrian, M. 2018. Crisis communication patterns in social media during hurricane Sandy. *Transportation Research Record*, 2672(1), 125–137.
23. **Hasan, S.**, and Ukkusuri, S. V. 2018. Reconstructing activity location sequences from incomplete check-in data: A semi-Markov continuous-time Bayesian network model. *IEEE Transactions on Intelligent Transportation Systems*, 19(3), 687-698.
24. **Hasan, S.**, Wang, X., Khoo, Y. B., and Foliente, G. 2017. Accessibility and socio-economic development of human settlements. *PloS One*, 12(6), e0179620.
25. Ebadi, N., Kang, J. E., and **Hasan, S**. 2017. Constructing activity–mobility trajectories of college students based on smart card transaction data. *International Journal of Transportation Science and Technology*, 6(4), 316-329.

26. Rashidi, T. H., Abbasi, A., Maghrebi, M., **Hasan, S.**, and Waller T. S. 2017. Exploring the capacity of social media data for modelling travel behaviour: Opportunities and challenges. *Transportation Research Part C*, 75, 197-211.

[Prior to Joining UCF]

27. **Hasan, S.**, Ukkusuri, S. V., and Zhan, X. 2016. Understanding social influence in activity location choice and life-style patterns using geo-location data from social media. *Frontiers in ICT*, 3, 10.
28. Ukkusuri, S. V., **Hasan, S.**, Luong, B., Doan, K., Zhan, X., Murray-Tuite, and Yin, W. 2016. A-RESCUE: An agent based regional evacuation simulator coupled with user enriched Behavior. *Networks and Spatial Economics*, 17 (1), 197-223.
29. **Hasan, S.** and Ukkusuri, S. V. 2015. Location contexts of user check-ins to model urban geo life-style patterns. *PloS One*, 10(5): e0124819.
30. **Hasan, S.** and Foliente, G. 2015. Modeling infrastructure system interdependencies and socio-economic impacts of failure in extreme events: Emerging R&D challenges. *Natural Hazards*, 78(3), 2143-2168.
31. **Hasan, S.** and Ukkusuri, S. V. 2014. Urban activity pattern classification using topic models from online geo-location data. *Transportation Research Part C*, 44, 363-381.
32. **Hasan, S.**, Schneider, C., Ukkusuri, S. V., and Gonzalez, M. 2013. Spatiotemporal patterns of urban human mobility. *Journal of Statistical Physics*, 151, 304-318.
33. Zhan, X., **Hasan, S.**, Ukkusuri, S. V., and Kamga, C. 2013. Urban link travel time estimation using large-scale taxi data with partial information. *Transportation Research Part C*, 33, 37-49.
34. Collins, C., **Hasan, S.**, and Ukkusuri, S. V. 2013. A novel transit rider satisfaction metric: Rider sentiments measured from online social media data. *Journal of Public Transportation*, 16(2), 21-45.
35. **Hasan, S.**, Mesa-Arango, R., and Ukkusuri, S. V. 2013. A random-parameter hazard-based model to understand household evacuation timing behavior. *Transportation Research Part C*, 27, 108-116.
36. Aziz, H., Ukkusuri, S. V., and **Hasan, S.** 2013. Exploring the determinants of pedestrian-vehicle crash severity in New York City. *Accident Analysis and Prevention*, 50, 1298-1309.
37. Mesa-Arango, R., **Hasan, S.**, Ukkusuri, S. V., and Murray-Tuite, P. 2013. Household-level model for hurricane evacuation destination type choice using Hurricane Ivan data. *ASCE Natural Hazards Review*, 14(1), 11-20.
38. **Hasan, S.** and Ukkusuri, S. V. 2013. Social contagion process in informal warning networks to understand evacuation timing behavior. *Journal of Public Health Management Practice*, 19, S68-S69.
39. **Hasan, S.**, Mesa-Arango, R., Ukkusuri, S. V., and Murray-Tuite, P. 2012. Transferability of hurricane evacuation model: Joint model estimation combining multiple data sources. *ASCE Journal of Transportation Engineering*, 138(5), 548-556.
40. **Hasan, S.** and Ukkusuri, S. V. 2011. A threshold model of social contagion process for evacuation decision making. *Transportation Research Part B*, 45(10), 1590-1605.
41. **Hasan, S.**, Ukkusuri, S. V., Gladwin. H., and Murray-Tuite, P. 2011. Behavioral model to understand household-level hurricane evacuation decision making. *ASCE Journal of Transportation Engineering*, 137(5), 341-348.

42. **Hasan, S.**, Choudhury, C., Ben-Akiva, M., and Emmonds, A. 2011. Modeling of travel time variations on urban links in London. *Transportation Research Record*, 2260, 1-7.
43. Ukkusuri, S. V., **Hasan, S.**, and Aziz, H. 2011. Random parameter model used to explain effects of built-environment characteristics on pedestrian crash frequency. *Transportation Research Record*, 2237, 98-106.

Journal Papers under Review (* indicates my student as a co-author)

44. Zhang, J.*, **Hasan, S.**, Yan, X., and Liu, X. Spatio-Temporal Mobility Patterns of On-demand Ride-hailing Service Users. Under review in *Transportation Letters*.

Refereed Conference Proceedings (* indicates my student as a co-author)

1. Rahman, R.*, Roy, K. C. *, and **Hasan, S.** Understanding Network Wide Hurricane Evacuation Traffic Pattern from Large-scale Traffic Detector Data. Accepted for publication in the *Proceedings of IEEE International Conference on Intelligent Transportation Systems*, Indianapolis, Indiana, September 2021.
2. Zhang, J.*, **Hasan, S.**, Roy, K. C.*, and Yan, X. Predicting Individual Mobility Behavior of Ride-Hailing Service Users considering Heterogeneity of Trip Purposes. Accepted for publication in the *Proceedings of IEEE International Conference on Intelligent Transportation Systems*, Indianapolis, Indiana, September 2021.
3. Baghali, S., **Hasan, S.**, and Guo, Z. Analyzing the Travel and Charging Behavior of Electric Vehicles - A Data-driven Approach. In proceedings of *IEEE Kansas Power and Energy Conference (KPEC)*, Manhattan, Kansas, April 2021.
4. Rahman, R.*, Shabab, K. R., Roy, K. C.*, Zaki, M. H., and **Hasan, S.** Inferring User Perception towards Active Mobility: A Real-Time Twitter Data Mining Approach to Evaluate Qualitative Level of Service for Active Transportation Facilities. In Proceedings of *Transportation Research Board 100th Annual Meeting*, January 2021.
5. Rahman, R.*, Bhowmik, T., Eluru, N., and **Hasan, S.** Assessing the Crash Risks of Evacuation: A Matched Case-Control Approach Applied over Data Collected during Hurricane Irma. In Proceedings of *Transportation Research Board 100th Annual Meeting*, January 2021 (Abstract Only).
6. Fandango, A., Wiegand, P., Ni, L., and **Hasan, S**. Impact of Augmenting GRU Networks with Iterative and Direct Strategies for Traffic Speed Forecasting. *In the Thirty-Third International Flairs Conference*, *May 2020*.
7. Roy, K.*, Ahmed, M. A., **Hasan, S.**, and Sadri, A. M. Dynamics of Crisis Communications in Social Media: Spatio-temporal and Text-based Comparative Analyses of Twitter Data from Hurricanes Irma and Michael. *In Proceedings of the International Conference on Information Systems for Crisis Response and Management (ISCRAM), 2020*.
8. Zhang, J*, **Hasan, S.**, and Yan, X. Mobility Behavior of On-demand Ride-Hailing Service Users. *Transportation Research Board 99thAnnual Meeting*, Washington D.C., January 2020 (Abstract Only).
9. Rahman, R.*, **Hasan, S.**, and Zaki, M. H. Towards Reducing the Number of Crashes during Hurricane Evacuation: Assessing the Potential Safety Impact of Adaptive Cruise Control Systems. *Transportation Research Board 99thAnnual Meeting*, Washington D.C., January 2020 (Abstract Only).

10. Roy, K. C.* and **Hasan, S.** Understanding information diffusion in social media in a hurricane evacuation context. *INFORMS Annual Meeting, Seattle, Washington, October 2019* (Abstract Only).
11. Rahman, R.* and **Hasan, S.** Applications of Deep Learning Techniques for Smart Traffic Management and Operations. In *Proceedings of* the *1st International Conference on Smart Tourism, Smart Cities, and Enabling Technologies*, University of Central Florida, Orlando, Florida, USA, May 2019.
12. Roy, K.* and **Hasan, S.** Modeling the dynamics of hurricane evacuation decisions from real-time Twitter data. In *Proceedings of Transportation Research Board 98th Annual Meeting,* Washington D.C., January 2019 (Abstract Only).
13. Rahman, R.* and **Hasan, S.** Real-time signal queue length prediction using long short-term memory neural network. In *Proceedings of Transportation Research Board 98th Annual Meeting,* Washington D.C., January 2019 (Abstract Only).
14. Rahman, R.* and **Hasan, S.** Short-term traffic speed prediction for freeways during hurricane evacuation: A deep learning approach. In *Proceedings of IEEE International Conference on Intelligent Transportation Systems,* Maui, Hawaii, November 2018.
15. Hasnat, M. M.* and **Hasan, S.** Understanding tourist destination choices from geo-tagged tweets. In *Proceedings of IEEE International Conference on Intelligent Transportation Systems*, Maui, Hawaii, November 2018.
16. **Hasan, S.**, Roy, K.*, Hasnat, M. M.*, and Abdel-Aty, M. Sharing real-time traffic information with travelers using social media: An analysis of Twitter activities, influence, and effectiveness. In *Proceedings of Transportation Research Board 97th Annual Meeting,* Washington D.C., January 2018.
17. Hasnat, M. M.*, and **Hasan, S.** Analyzing spatial patterns of tourist destinations from location-based social media data: Filtering, classification, and clustering methods. In *Proceedings of Transportation Research Board 97th Annual Meeting,* Washington D.C., January 2018.
18. Roy, K.*, **Hasan, S.**, Sadri, A.M., and Cebrian, M. Understanding the effectiveness of the social media based crisis communication during hurricane Sandy. In *Proceedings of Transportation Research Board 97th Annual Meeting,* Washington D.C., January 2018.
19. Roy, K.*, and **Hasan, S.** Quantifying human mobility resilience to extreme events using geolocated social media data. In *Proceedings of Transportation Research Board 97th Annual Meeting,* Washington D.C., January 2018.
20. Wu, L., **Hasan, S.**, Kang, J. E., and Chung, Y. Understanding the heterogeneity of human mobility patterns: User characteristics and modal preferences. In *Proceedings of Transportation Research Board 97th Annual Meeting,* Washington D.C., January 2018.
21. Sadri, A. M., **Hasan, S.**, Ukkusuri, S. V., and Cebrain, M. Crisis communication patterns in social media during hurricane Sandy. In *Proceedings of Transportation Research Board 97th Annual Meeting,* Washington D.C., January 2018.
22. Ebadi N., Kang, J. E., and **Hasan, S.** Inferring activity-mobility behavior of college students based on smart card transaction data. In *Proceedings of Transportation Research Board 96th Annual Meeting,* Washington D.C., January 2017.

[Prior to Joining UCF]

23. **Hasan, S.**, Tonmoy, F., El-Zein, A., and Foliente, G. Modelling infrastructure interdependency at

a local scale: value, methodologies and challenges. In *Proceedings of the 21st International Congress on Modelling and Simulation (MODSIM2015)*, Gold Coast, Australia, December 2015.

24. **Hasan, S.**, and Foliente, G. Modeling the potential impacts of infrastructure system interdependencies and cascading failures: Current status and research needs. In *Proceedings of abstracts of the Climate Adaptation Future Challenges Conference*, Gold Coast, Australia, October 2014.
25. **Hasan, S.**, Zhan, X., and Ukkusuri, S. V. Understanding urban human activity and mobility patterns using large-scale location-based data from online social media. In *Proceedings of the 2nd ACM SIGKDD International Workshop on Urban Computing*, Chicago, August 2013.
26. Collins, C., **Hasan, S.**, and Ukkusuri, S. V. A novel transit rider satisfaction metric: Riders sentiment measured from online social media. In *Proceedings of 91st Transportation Research Board Meeting*, Washington D.C., January 2012.
27. Ukkusuri, S. V., **Hasan, S.**, and Aziz, A. A random-parameter model to explain the built environment effects of pedestrian accident frequency. In *Proceedings of 90th Transportation Research Board Meeting*, Washington D.C., January 2011.
28. **Hasan, S.**, Choudhury, C., Ben-Akiva, M., and Emmonds, A. Modeling travel time variations on urban links in London. In *Proceedings of 90th Transportation Research Board Meeting*, Washington D.C., January 2011.
29. **Hasan, S.** and Ukkusuri, S. V. Threshold model of social contagion process on random networks: Application to evacuation decision making. In *Proceedings of the Seventh Triennial Symposium of Transportation Systems Analysis (TRISTAN VII)*, Tromso, Norway, June 2010.
30. **Hasan, S.** and Hoque, M. S. A simplified travel demand modeling framework: In the context of a developing country city. In *Proceedings of Sustainable Development Challenges of Transport in Cities of the Developing World (CODATU XIII)*, Ho Chi Minh city, Vietnam, 2008.
31. **Hasan, S.** and Hoque, M. S. Developing a trip generation model for Dhaka City. *11th World Conference on Transport Research (WCTR)*, Berkeley, USA, 2007.

Conference Papers under Review (* indicates my student as a co-author)

32. Rahman, R.* and **Hasan, S.** A Deep Learning Approach for Network-wide Dynamic Traffic Prediction during Hurricane Evacuation. In *Transportation Research Board 101st Annual Meeting*, January 2022.
33. Rahman, R.*, Zhang, J.*, Tirtha, S. D., Bhowmik, T., Jahan, M. I., Eluru, N., and **Hasan, S.** A Data-Driven Network Model for Traffic Volume Prediction at Signalized Intersections. In *Transportation Research Board 101st Annual Meeting*, January 2022.
34. Zhang, J.*, Enam, A., Roy, K. C.*, Auld, J., and **Hasan, S.** Modeling Individual Activity Behavior Using Vehicle Trajectory Data. In *Transportation Research Board 101st Annual Meeting*, January 2022.
35. Zhang, J.*, Rahman, R.*, and **Hasan, S.** Short-Term Traffic Delay Prediction at Signalized Intersections Using Machine Learning Models. In *Transportation Research Board 101st Annual Meeting*, January 2022.
36. Figaro, M.*, Fu, Y., Haofei, Y., and **Hasan, S.** Understanding Individual Mobility Behavior During COVID-19 Lockdown Using Social Media Data. In *Transportation Research Board 101st Annual Meeting*, January 2022.
37. Baghali, S., Guo, Z., and **Hasan, S.** Investigating the Travel Behavior and Charging Demand of

Electric Vehicles Using GPS Data. In *Transportation Research Board 101st Annual Meeting*, January 2022.

38. Kazenmayer, L.*, Ford, G.*, Zhang, J.*, Rahman, R.*, Cimen, F., Targut, D., and **Hasan, S.** Predicting Short-Term Traffic Volume at Intersections Using Large-Scale Automated Signal Performance Measures (ATSPM) Data. In *Transportation Research Board 101st Annual Meeting*, January 2022.

<u>Invited Book Chapters</u>

1. Ukkusuri, S. V., **Hasan, S.**, and Zhan, X. 2013. Checking the urban pulse: Social media data analytics for transportation applications. Best Practices for Transportation Agency Use of Social Media. Editors: Susan Bregman and Kari Edison Watkins. Taylor and Francis/CRC Press.

<u>Conference/Invited Presentations</u>

1. Mumtarin, M.* and **Hasan, S.** Network Communication Among Agencies During Disaster Period. Poster presentation in *46th Annual Natural Hazards Research and Applications Workshop*, Virtual Event, July 2021.
2. Rahman, R.* and **Hasan, S.** Data-Driven Traffic Assignment: A Novel Approach of Learning Traffic Flow Patterns Using Graph Convolution Neural Network. Presentation in *Virtual DTA2021 Symposium*, June 2021.
3. **Hasan, S.** and Roy, K*. High fidelity location-based risk estimates for COVID-19 to guide reopening of cities. Invited talk at *Online Symposium on COVID-19 Related Research in Developed and Developing Countries*, Virtual Event, November 2020.
4. **Hasan, S.** Data Science for Smart and Resilient Cities: Infrastructure Interdependency, Disaster Management, and Deep Learning in Transportation. Invited talk at *CECS Virtual Seminar Series*, University of Central Florida, May 2020.
5. **Hasan, S.** Understanding the dynamics of hurricane evacuation decisions from real-time social media data. Invited talk at *Association for Environmental Studies and Sciences (AESS) Conference*, University of Central Florida, Orlando, Florida, June 2019.
6. **Hasan, S.** Applications of Deep Learning Techniques for Smart Traffic Management and Operations. *1st International Conference on Smart Tourism, Smart Cities, and Enabling Technologies*, University of Central Florida, Orlando, Florida, May 2019.
7. **Hasan, S.** Short-term traffic speed prediction for freeways during hurricane evacuation: A deep learning approach. Lectern presentation in *IEEE International Conference on Intelligent Transportation Systems*, Maui, Hawaii, November 2018.
8. **Hasan, S.** Understanding tourist destination choices from geo-tagged tweets. Lectern presentation in *IEEE International Conference on Intelligent Transportation Systems*, Maui, Hawaii, November 2018.
9. **Hasan, S.** TSMO and social media: Sharing real-time traffic information with travelers using Twitter. Invited talk in *TSMO Committee Meeting at MetroPlan Orlando*, April 2018.
10. **Hasan, S.** Understanding the pattern and effectiveness of social media based crisis communication during Hurricane Sandy. Invited presentation in *International Crisis and Risk Communication Conference*, Orlando, March 2018.
11. **Hasan, S.** Sharing Real-Time Traffic Information with travelers using social media: An analysis

of Twitter activities, influence, and effectiveness. Lectern presentation in *Transportation Research Board 97th Annual Meeting,* Washington D.C., January 2018.

12. **Hasan, S.** and Hasnat, M. M.* Sharing Real-Time Traffic Information with travelers using social media: An analysis of Twitter activities, influence, and effectiveness. Lectern presentation in *Transportation Research Board 97th Annual Meeting,* Washington D.C., January 2018.
13. Hasnat, M. M.*, and **Hasan, S.** Analyzing Spatial Patterns of Tourist Destinations from Location-Based Social Media Data: Filtering, Classification, and Clustering Methods. Lectern presentation in *Transportation Research Board 97th Annual Meeting,* Washington D.C., January 2018.

[Prior to Joining UCF]

14. Modeling urban mobility dynamics: Opportunities from geo-location data. Invited talks at:
    Monash University, Melbourne, Australia, April 2016.
    University of Michigan, Ann Arbor, Michigan, USA, March 2015.
    Vanderbilt University, Tennessee, USA, January 2015.
    University of Sydney, Sydney, Australia, October 2014.
    University of Queensland, Brisbane, Australia, August 2014.
15. Assessing the direct economic impacts of disruptions in transport networks. *21st International Congress on Modelling and Simulation (MODSIM2015)*, Gold Coast, Australia, December 2015.
16. Modeling urban mobility dynamics using geo-location data. Invited talk in *Transportation & Logistics Society (TSL) Award Finalist Session*, INFORMS Annual Meeting, San Francisco, USA, November 2014.
17. Modeling the potential impacts of infrastructure system interdependencies and cascading failures: Current status and research needs. *Climate Adaptation Future Challenges Conference*, Gold Coast, October 2014.
18. Urban computing in transportation: Opportunities for developing countries. *Workshop on IT in transportation*, BUET, Dhaka, Bangladesh, June 2014.
19. Modeling the performance of interdependent infrastructure systems during coastal inundation. *3rd International Climate Change Adaptation Conference*, Fortaleza Ceara, Brazil, May 2014.
20. Strategies to manage transport infrastructure under extreme weather events – An agent-based simulation approach. *International Symposium on Climate Adaptation Engineering for Cities and Coasts*, Melbourne, Australia, October 2013.
21. Modeling individual activity patterns using geo-location data. *NIPS Workshop on Machine Learning Approaches to Mobile Context Awareness*, Lake Tahoe, Nevada, December 2012.
22. Inferring individual activity patterns using large-scale geo-location data. *INFORMS Annual Meeting*, Phoenix, Arizona, October 2012.
23. Modeling location choices for discretionary activities using large-scale data collected from online social media. *INFORMS Annual Meeting*, Phoenix, Arizona, October 2012.
24. An agent-based integrated behavioral and dynamic traffic flow model for hurricane evacuation. *4th International Symposium on Dynamic Traffic Assignment*, Martha's Vineyard, Massachusetts, June 2012.
25. Modeling individual activity patterns using online social media data. *INFORMS Annual Meeting*, Charlotte, North Carolina, November 2011.
26. An agent-based modeling approach integrating household level behavior with traffic simulation. *INFORMS Annual Meeting*, Charlotte, North Carolina, November 2011.

27. Semi-Markov chain modeling of human mobility. *INFORMS Annual Meeting*, Austin, Texas, November 2010.
28. Threshold model of social contagion process on mixed networks: Application to evacuation decision making. *INFORMS Annual Meeting*, Austin, Texas, November 2010.

Funded Research Projects:

- Total external research funding involved in ***$5.0 million*** with my funding credit ***$985K***.
- Total internal and other funding received ***$44K***.
- Funding sources include: *five* federal grants (NSF, U.S. DOT), *six* state level grants (FDOT, Northeast Florida Reginal Council), *three* university transportation center (UTC) grants (SAFER-SIM, Southeastern), and *two* internal and other grants (UCF seed).
- PI/lead of *eight* projects and Co-PI/Senior Personnel of *eight* projects.

[External Funded Research Projects as a PI]

1) Collaborative Research: Predicting Real-time Population Behavior during Hurricanes Synthesizing Data from Transportation Systems and Social Media.
My Role: Lead PI (Other PIs: Naveen Eluru, Claire Knox, and Aron Culotta (Tulane University))
Time of award: September 2019 — August 2022
Agency sponsor: National Science Foundation [*Federal*]
Funds: $210,000
My share: 55% of the contract.

2) CRISP 2.0 Type 2: Collaborative Research: Organizing Decentralized Resilience in Critical Interdependent-infrastructure Systems and Processes (ORDER-CRISP).
My Role: PI at UCF (Other PIs: Pallab Mozumder (Florida International Univ., Lead PI), Omar Abdul-Aziz (West Virginia Univ.), Joost Santos (George Washington Univ.), Sisi Meng (Notre Dame Univ.), Nafisa Halim (Boston Univ.), and Chris Kuhlman, Achla Marathe, and Anil Vullikanti (Univ. of Virginia))
Time of award: January 2019 — December 2022
Agency sponsor: National Science Foundation [*Federal*]
Funds: $210,189
My share: 100% of the contract.

3) Statewide Regional Evacuation Study Program (SRESP) Update Phase 1: Florida Behavioral Study.
My Role: PI (co-PIs: Naveen Eluru and Claire Knox)
Time of award: October 2020 — June 2021
Agency sponsor: Northeast Florida Regional Council [*State Level*, UCF is subcontracted by Cambridge Systematics]
Funds: $94,463
My share: 50% of the contract.

4) A Co-Simulation Study to Assess the Impacts of Connected and Autonomous Vehicles on Traffic Flow Stability during Hurricane Evacuation.
My Role: PI (Co-PI: Mohamed H. Zaki)
Time of award: July 2020 — December 2021
Agency sponsor: SAFER-SIM University Transportation Center [*UTC*]
Funds: $45,900
My share: 60% of the contract.

5) Assessing Crash Risks of Evacuation Traffic: A Simulation-based Approach.
My Role: Sole PI
Time of award: September 2018 — December 2019
Agency sponsor: SAFER-SIM University Transportation Center [*UTC*]
Funds: $34,973
My share: 100% of the contract.

6) Disaster Analytics: Disaster Preparedness and Management through Online Social Media.
My Role: Sole PI
Time of award: 01/2017-12/2018.
Agency sponsor: Southeastern University Transportation Center [*UTC*]
Funds: $49,771
My share: 100% of the contract.

[External Funded Research Projects as a Co-PI/Senior Personnel]

7) SCC-IRG Track 2: Leveraging Smart Technologies and Managing Community Resilience through Networked Communities and Cross-Sector Partnerships.
My Role: Senior Personnel (PI: Gurt Ge (UCF), Co-PIs: Zobel, C. (Virginia Tech); Wang, H. (Oregon State Univ.); Wang, L., Kapucu, N. (UCF). Senior Personnel: Hall, J. (UCF); Cechowski, M. (East Central Florida Regional Planning Council))
Time of award: September 2020 — August 2023
Agency sponsor: National Science Foundation, Smart and Connected Communities (S&CC) Program [*Federal*]
Funds: $1,225,000
My share: 4% of the contract.

8) Safety Research using Simulation (SAFER-SIM) (A Tier 1 University Transportation Center)
My Role: Co-PI (PI: Mohamed Abdel-Aty and other Co-PI: Naveen Eluru)
Time of award: November 2016 — September 2022
Agency sponsor: U.S. Department of Transportation (U.S. DOT) [*Federal*, UCF is subcontracted by Univ. of Iowa]
Funds: $1,314,000
My share: 12.5% of the contract.

9) REU Site: Research Experiences for Undergraduates Site on Internet of Things (IoT).

My Role: Co-PI (PI: Dr. Damla Targu and other co-PIs: Hyoung Cho, Ladislau Boloni, Lisa Massi, Greg Welch, Qun Zhou, Andrew Dickerson, and Gerd Bruder)
Time of award: May 2019 — April 2022
Agency sponsor: National Science Foundation [*Federal*]
Funds: $393,000
My share: 5% of the contract.

10) PHASE I: Before Study Evaluation of Interstate 4 (I-4) Florida's Regional Advanced Mobility Elements (FRAME) Project (Before Analysis)
My Role: Co-PI (PI: Mohamed Abdel-Aty)
Time of award: February 2021—February 2022
Agency sponsor: Florida Department of Transportation (FDOT) [*State Level*]
Funds: $ 214,000
My share: 5% of the contract.

11) Phase II - ATTAIN: Improving Vulnerable Road Users' Safety Based on Computer Vision Technologies and High-fidelity Hybrid Traffic Forecasting Tool for Urban Transportation Networks using Emerging Datasets.
My Role: Co-PI (PI: Mohamed Abdel-Aty and other Co-PIs: Naveen Eluru, and Yina Wu)
Time of award: May 2020 — January 2022
Agency sponsor: Florida Department of Transportation (FDOT) [*State Level*]
Funds: $413,000
My share: 33% of the contract.

12) Pre-Deployment Study for the Connecting the East Orlando Communities Project.
My Role: Co-PI (PI: Mohamed Abdel-Aty)
Time of award: 04/2018-04/2019
Agency sponsor: Florida Department of Transportation (FDOT) [*State Level*]
Funds: $100,000
My share: 25% of the contract.

13) Evaluating Community Building Effectiveness of Transportation Investments: Using Traditional and Big Data Oriented Analytical Approaches
My Role: Co-PI (PI: Naveen Eluru and other Co-PI: Essam Radwan)
Time of award: November 2016 — February 2020 (in 3 yearly phases).
Agency sponsor: Florida Department of Transportation (FDOT) [*State Level*]
Funds: $300,000
My share: 30% of the contract.

14) Integrated Freeway/Arterial Active Traffic Management (IATM)
My Role: Co-PI (PI: Mohamed Abdel-Aty and other Co-PIs: Naveen Eluru and JaeYoung Lee)
Time of award: February 2017 — October 2019
Agency sponsor: Florida Department of Transportation (FDOT) [*State Level*]
Funds: $500,000

My share: 15% of the contract.

[Internal Funding and Other Projects, not reflected in my funding credit]

15) Tracking Community Transmission and Exposure of an Infectious Disease using Passively Collected Location Data.
My Role: PI (Co-PIs: Haofei Yu, Yanjie Fu, Robert Hines, and Kelly Stevens)
Time of award: February 2021 — January 2022
Agency sponsor: UCF Seed Funding Program [*Internal*]
Funds: $43,025

16) Assessing the Impacts of Social Distancing through Data Synthesis Working Group
My Role: Leading member (other members: Naveen Eluru and Yue Ge)
Time of award: Summer 2020
Sponsor: CONVERGE facility at the Natural Hazards Center at the University of Colorado Boulder, an NSF-funded Social Science Extreme Events Research (SSEER) network
Funds: $1,000
My share: 75% of the fund.

Proposals Under Review:

1) EAGER: SAI: Exploring Pathways of Adaptive Infrastructure Management with Rapidly Intensifying Hurricanes
My Role: PI (a collaborative project with FIU)
Time of award: May 2021 — April 2023
Agency sponsor: National Science Foundation
Funds: $140,000
My share: 100% of the fund.

2) CAREER: A Data-centric Convergent Platform for Assessing the Resilience and Recovery of Disrupted Socio-Infrastructure Systems
My Role: Sole PI
Time of award: May 2022 — May 2027
Agency sponsor: National Science Foundation
Funds: $536,167
My share: 100% of the fund.

3) Equity-Informed Transportation Models for Planning and Operations
My Role: PI (Co-PI: Naveen Eluru)
Time of award: October 2021 — September 2024
Agency sponsor: Pacific Northwest National Laboratory
Funds: $517,416
My share: 60% of the fund.

TEACHING EXPERIENCE

Courses Taught at UCF

Course Number	Course Title	Credits	Class	Semester	# of Students	Overall effectiveness of the instructor (on a scale of 5)
CGN6342	Modeling Human Behavior with Emerging Data	3	Graduate	Spring 2021	14	4.80
TTE4274	Transportation Engineering Systems	3	Senior	Spring 2021	65	4.24
TTE6608	Algorithms & Models for Smart Cities	3	Graduate	Fall 2020	16	4.08
TTE3810	Highway Engineering	3	Junior	Spring 2020	89	4.26
TTE4274	Transportation Engineering Systems	3	Senior	Spring 2020	57	4.28
TTE3810	Highway Engineering	3	Junior	Fall 2019	63	3.68
TTE4274	Transportation Engineering Systems	3	Senior	Fall 2019	70	4.06
TTE3810	Highway Engineering	3	Junior	Spring 2019	77	3.85
TTE4274	Transportation Engineering Systems	3	Senior	Spring 2019	48	3.94
TTE3810	Highway Engineering	3	Junior	Fall 2018	43	4.12
TTE6608	Algorithms & Models for Smart Cities	3	Graduate	Fall 2018	20 5	4.22 2.67
TTE3810	Highway Engineering	3	Junior	Spring 2018	75	3.80
TTE6608	Algorithms & Models for Smart Cities	3	Graduate	Fall 2017	23	3.35
TTE3810	Highway Engineering	3	Junior	Spring 2017	42	3.88
TTE3810	Highway Engineering	3	Junior	Fall 2016	14	3.78

Student Supervision

Doctoral Students

1. Tasnuba Binte Jamal, commencing in Fall 2021
2. Naiyara Noor, commencing in Fall 2021
3. Zaheen E Muktadi Syed, commencing in Fall 2021
4. Jiechao Zhang, Fall 2018-present
5. Rezaur Rahman, Fall 2017-present
6. Kamol Chandra Roy, Fall 2016-Fall 2020. *Currently*: Data Scientist at CPCS Transcom Inc.

M.S. Students

1. Marcus Figaro, Spring 2021-present.
2. Jiechao Zhang, Spring 2020
3. Rezaur Rahman, Spring 2019
4. Kamol Chandra Roy, Fall 2018
5. Md-Mehedi Hasnat, Spring 2018. *Currently*: Ph.D. student at North Carolina State University.

Undergraduate Students

1. Leah Kazenmayer, NSF Research Experience for Undergraduates (REU) Fellow (Summer 2021)
2. Gabriela Ford, NSF Research Experience for Undergraduates (REU) Fellow (Summer 2021)
3. Sarah Figueroa, Summer Undergraduate Research Fellow (Summer 2020)
4. Lexie Chong, Excel Undergraduate Researcher (Spring 2019)
5. Christopher Feltner, Undergraduate Research Intern (Spring 2019)
6. Joshua Parker, Excel Undergraduate Researcher (Spring 2017)
7. Adrian Parisi, Undergraduate Research Intern (Summer 2017)
8. Saori Lorkowski, Undergraduate Research Intern (Spring 2018)
9. Steve Lue, Undergraduate Research Intern (Spring 2018)

Dissertation/Thesis Committee

External Examiner of Ph.D. Dissertations

1. Md. Jahedul Alam, Dalhousie University, Canada
2. Saeed Farooq Khan, University of Queensland, Australia

Ph.D. Dissertations at UCF

1. Ma'en Mohammad Ali Al-Omari (CECE)
2. Zubayer Islam (CECE)
3. Pengyang Wang (CS)
4. Nada Mahmoud (CECE)
5. Masoumeh Kalantari Khandani (CS)
6. Armando Fandango (IST)
7. Rabab Salih Elamin (CECE)
8. Mostafizur Rahman (ECE)

9. Lishengsa Yue (CECE)
10. Yaobang Gong (CECE)
11. Xiaonan Yu (CECE)
12. Mesut Ozdag (CS)
13. Prasun Kanti Dey (ECE)
14. Moatz Saad (CECE)
15. Md Sharikur Rahman (CECE)
16. Whoibin Chung (CECE)
17. Jinghui Yuan (CECE)
18. S M Osman Gani (ECE)
19. Md Imrul Kayes (CS)
20. Jun Xu (CS)
21. Adrian Sandt (CECE)
22. Qing Cai (CECE)
23. Yina Wu (CECE)

MS Theses at UCF

1. Mariam Wessam Hassan Mohamed Nour (CECE)
2. Shile Zhang (CECE)
3. Pei Li (CECE)
4. Yaobang Gong (CECE)
5. Md Sharikur Rahman (CECE)
6. Omar Al-Sahili (CECE)
7. Md. Omar Faruk (CECE)
8. Jiazheng Zhu (CECE)

PROFESSIONAL ACTIVITIES

Editorship of Journals

- **Associate Editor**, *ASCE Natural Hazards Review*, December 2019 – present.
- **Associate Editor**, *Frontiers in Built Environment*, March 2021 – present.
- **Associate Editor**, *Journal of Transportation Safety and Security (JTSS)*, Highway Transportation System Security and Emergency Response area, July 2017 – present.
- **Member of Editorial Advisory Board**, *Transportation Research Part C*, April 2021– present
- Lead Topic Editor: Research Topic on "COVID-19 and the Role of Human Mobility and Transportation Systems", *Frontiers in Built Environment*, May 2020 - present.
- Guest Editor, Special issue on Emerging Methods for Data-driven Urban Transportation and Mobility Modeling: Machine Learning and Complexity Approaches, *Transportation Research Part C*, October 2018 – December 2020.
- Guest Editor, Special issue on Sustainable and Resilient Transport Infrastructure, *Journal of Advanced Transportation*, November 2017 – November 2018.

Conference/Workshop Committees

- Associate Editor, *IEEE Intelligent Transportation Systems Conference (ITSC)*, 2019, 2020, 2021
- Co-organizer, TRB Network Modeling ADB 30(5) Workshop "Network Modeling in the Era of Automation Technologies, Big Data Analytics and Advanced Computing: Identifying Challenges and Pathways to Future Breakthroughs", January 2019.
- Session Chair, Transportation and Disaster Analytics at INFORMS Annual Meeting, Nashville, Tennessee, November 2016.
- Contributed to a section (on supervised learning) in "A Primer on Machine Learning for Transportation" to be published by TRB Artificial Intelligence and Advanced Computing Applications Committee (ABJ70)
- Volunteer representative of Urban Big Data Subcommittee in the Research Council of TRB Urban Transportation Data and Information Systems Committee (ABJ30), March 2017 – present.

Review Activities

- Proposals:
    - National Science Foundation (NSF) proposal review panels (3 panels)
    - University Transportation Center Grant Proposals:
        - SAFER-SIM (3 in 2018, 2 in 2019, 4 in 2020)
        - National Institute for Transportation and Communities (5 proposals)
    - Israel Science Foundation (ISF) (1 proposal)
    - The Israeli Smart Transportation Research Center (ISTRC) (1 proposal)
- Conference Papers:
    - IEEE Intelligent Transportation System Conference (ITSC) (2018, 2019, 2020)
    - Transportation Research Board Annual Meeting (3 papers in 2020, 10 papers in 2019, 9 papers in 2018, 10 papers in 2017).
- Journal Articles:
    - Transportation journals
        - Transportation Science
        - Transportation Research Part A, Part B, Part C, Part D
        - IEEE Transactions on Intelligent Transportation Systems
        - IEEE Intelligent Transportation Systems Magazine
        - Accident Analysis and Prevention
        - Case Studies on Transport Policy
        - Journal of Transport Geography
        - Journal of Transportation Safety & Security
        - Networks and Spatial Economics
        - Transportation
        - Transportmetrica A: Transport Science
        - Transportmetrica B: Transport Dynamics
        - Transportation Research Record
        - Transportation Letters

- Interdisciplinary journals
  - EPJ Data Science
  - Plos One
  - IEEE Access
  - IEEE Transactions on Computational Social Systems
  - International Journal of Disaster Risk Reduction
  - International Journal of Information Management
  - Natural Hazards Review
  - Bulletin of the American Meteorological Society
  - Journal of the American Planning Association
  - Area (Royal Geographical Society)
  - Artificial Intelligence in Medicine
  - Frontiers of Information Technology & Electronic Engineering
  - Frontiers in Built Environment
  - International Journal of Environmental Research & Public Health
  - Simulation Modelling Practice and Theory
  - Urban Studies
  - Sustainable Cities and Society
  - Sustainability

- Judge for the Council of University Transportation Centers (CUTC) Ph.D. dissertation award, 2019, 2020.

Membership

- Member, Technical Committee on Artificial Intelligence, Transportation and Development Institute (T&DI), ASCE, November 2020—present.
- Member, Technical Committee on Transportation Safety, Transportation and Development Institute (T&DI), ASCE, January 2019—present.
- Member, Transportation Research Board (TRB)
- Member, American Society of Civil Engineering (ASCE)
- Member, The Institute of Electrical and Electronics Engineers (IEEE)
- Member, The Institute for Operations Research and the Management Sciences (INFORMS)

Service to the Department and University

- Department initiatives:
  - Leading the efforts to prepare a brochure for transportation division to record all the presentations, publications, and awards received by UCF faculty and students at the Transportation Research Board Annual Meetings annually held in Washington D.C., January 2018-present.
  - Led the efforts to redesign the Future City Initiative webpage of CECE department, September 2018.
  - Contributed to **Future City Initiative** at CECE Department, served as a core member of the initiative, and assisted in curriculum design of Smart Cities MS track.

  - Contributed to the proposal “FUTURE CITy - Fostering Smart Urban Transformation and Ubiquitous Resilience with Connected Infrastructure and Technology”, submitted to UCF Faculty Cluster Initiative 2.0.
  - CECE Department Representative, Open House, October 2017, September 2016.

- I have been selected as a fellow of UCF Urban Resilience Initiative (URI).

- Search committees:
  - Chair, Search Committee for the position of a computer specialist in CECE Department, September 2020 – November 2020.
  - Member, Faculty Search Committee for the position of an Assistant Professor in Smart Materials/Smart Wastewater Management, August 2019 – February 2020.
  - Member, Faculty Search Committee for the position of two Assistant Professors in Transportation and Infrastructure Engineering, September 2017 – February 2018.
  - CECE representative, Faculty Search Committee for the position of one Assistant Professor on Smart Cities in Rosen College of Hospitality Management, September 2017 – March 2018.
  - Member, Search Committee for the position of an Office Assistant in CECE department, February 2018
  - CECE representative, Faculty Search Committee for the position of one Assistant Professor on Smart Cities in the College of Health and Public Affairs, September 2017 – January 2018.

- Student leadership building and organizing activities:
  - **Faculty Advisor**, Institute of Transportation Engineers (ITE), UCF Student Chapter, January 2019 – present. The chapter won ***ITE Florida Puerto Rico District Student Chapter Momentum Award*** in 2021.
  - Organized a *Big Data Challenge* in March 2020 at UCF under ASCE Southeast Student Conference (postponed due to COVID-19); a challenge website was created to share data and accept/rank the submissions.
  - Organized a *Data Annotation Challenge* in June 2019 at UCF under Camp Connect event.
  - Organized STEM day exhibitions on “*How do engineers save lives through playing a driving simulator game?*”, March 2017, October 2017.
- Organizing seminars and hosting guest researchers:
  - **Coordinator**, *Future City Seminar Series* at UCF, August 2019 – present
    Invited and confirmed speakers in 2021-22: Fred Mannering (Associate Dean at U. of South Florida), Kumares C. Sinha (Prof. at Purdue, NAE member), Yafeng Yin (Prof. at U. of Michigan), and Satish Ukkusuri (Prof. at Purdue).
    Invited and hosted in 2019-20: Fahim Kawsar (Director Pervasive Systems Research group, Nokia Bell Labs), Prashant Tiwari (Director, Intelligent Connected Systems Division, Toyota North America).
  - Hosted Dr. Fahim Tonmoy, Research Fellow of National Climate Change Adaptation and Research Facility, Griffith University, Australia for one week in February 2019.

- Organized a seminar presented by Dr. Nikolas Geroliminis (Associate Prof. at EPFL and Editor-in-Chief of Transportation Research Part C) in November 2017.
- Organized a seminar presented by Dr. Wangda Zuo (Assistant Prof. at the University of Miami) in April 2017.
- Organized a seminar presented by Dr. Minh Nguyen (Senior Research Scientist of CSIRO, Australia) in January 2017.