Publications

1. Pan, Y., Zuo, L., and Ahmadian, M., A Half-wave Electromagnetic Energy-Harvesting Tie towards Safe and Intelligent Rail Transportation, Applied Energy, 313(4):118844, May 2022. (https://doi.org/10.1016/j.apenergy.2022.118844). (Virginia Tech)
2. Soufiane, K., Zarembski, A. M., and Palese J. W., The Contribution of Crosstie Condition as Represented by Local Track Stiffness to the Wheel Load Distribution", Journal of Transportation Infrastructure Geotechnology, November 2022. https://doi.org/10.1007/s40515-022-00263-1. (University of Delaware)
3. Soufiane, K, Zarembski, A. M. and Palese, J. W., Forecasting Crosstie Condition Based on the Dynamic Adjacent Support Using a Theory-Guided Neural Network Model, submitted to Proceedings of the Institution of Mechanical Engineers, Part F: Journal of Rail and Rapid Transit, March 2023. (University of Delaware)
4. Stanik, P. III, Real-Time Semantic Segmentation for Railway Anomalies Analysis, MS Thesis, Department of Electrical and Computer Engineering, University of Nevada, Las Vegas, May 2023. (University of Nevada Las Vegas)

Other publications, conference papers and presentations

1. Radmehr, A. and Ahmadian, M., Can Machine Learning Methods Improve the Identification of Unstable Tracks?" Big Data in Railroad Maintenance Planning 2022, Newark, DE, December 14 – 15, 2022. (Virginia Tech)
2. Soufiane, K., Zarembski, A. M. and Palese, J. W., Effect of Failing Adjacent Crossties on Tie-Life: A Machine Learning Model, International Heavy Haul Railways Conference, Rio de Janeiro Brazil, August 2023. (University of Delaware)
3. Palese, J. and Mohamed, O., University of Delaware, "Development of a Multi-Dimensional Time-Based Track Safety and Quality Index" Presentation at Big Data in Railroad Maintenance Planning Conference, December 2022, Newark, DE. (University of Delaware)
4. Zarembski, A. M. and Soufiane, K., The Effect of Adjacent Tie Condition on Wood Cross-tie Life, Presentation at Big Data in Railroad Maintenance Planning Conference, December 2022, Newark, DE. (University of Delaware)