UTC Project Information	
Project Title	Traffic Congestion Identification and Prediction based on Image Processing and Deep Learning Methods (Project K3)
University	Jackson State University
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Start and End Dates	January 1, 2020 – December 31, 2021
Brief Description of Research Project	Traffic congestion is one of the major issues that most metropolises are confronted with. Many measures have been taken to mitigate congestion. It is believed that measurement of congestion characteristics is the first step for mitigation efforts since it can provide guidance for selecting appropriate measures. Therefore, implementing the image processing techniques, this project first focuses on identification of traffic congestion and extraction of congestion features from probe data. Second, from detectors on the road, abundant traffic data (flow, velocity, occupancy) can be achieved to depict traffic states. Fuzzy logic method is leveraged to derive a more accurate congestion index than a single measurement. The congestion states over the whole road network at one time can be snapshot as a static image, the evolution of network congestion is therefore regarded as a motion. Conventional prediction models are no longer able to deal with the motion prediction issue. Motivated by predominance of deep learning in motion prediction, this project will represent congestion levels of a traffic network as an image,

	then introduce an image-based deep learning approach for congestion forecasting.
Describe Implementation of Research Outcomes (or why not implemented) Place Any Photos Here	Not available. Research is in progress.
Impacts/Benefits of Implementation (actual, not anticipated)	Not available. Research is in progress.
Web Links • Reports • Project website	https://stride.ce.ufl.edu/project-k3/