



UTC Project Information	
Project Title	INTEGRATION OF MACHINE LEARNING IN STRUCTURAL HEALTH MONITORING FOR DAMAGE IDENTIFICATION AND RESPONSE PREDICTION IN BRIDGES
University	Florida International University
Principal Investigator	Dr. Islam Mantawy
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Funding Source(s) and Amounts Provided (by each agency or organization)	IBT-ABC-UTC funds : \$50,000
Total Project Cost	\$ 50,000
Agency ID or Contract Number	69A3552348322
Start and End Dates	January 1, 2025 - Active
Brief Description of Research Project	<p>Bridges, being critical infrastructure, need consistent monitoring as they are susceptible to damage from environmental factors, aging, and other causes. To address these challenges, advancements in structural health monitoring are being made, integrating new techniques to protect and enhance the longevity of bridges. SHM has transitioned from manual inspections to automated monitoring, aiding in maintenance of infrastructure and enhancing disaster prevention through effective monitoring. This section explores the evolution of SHM, from traditional methods to sensor-based evaluation. This change shows how important technology is becoming in maintaining structural health. However, regular SHM methods can be expensive and require extensive work and time with sensor-based data collection. The use of technology further signifies a transition towards the proper utilization of data and incorporating advanced techniques such as machine learning to ensure the resiliency and robustness of structures, advancing SHM</p>
Describe Implementation of Research Outcomes (or why not implemented) Place Any Photos Here	The outcomes will be tracked and reported once they are identified.

Impacts/Benefits of Implementation (actual, not anticipated)	The impacts will be tracked and reported once they are identified.
Web Links <ul style="list-style-type: none">• Reports• Project website	https://abc-utc.fiu.edu/integration-of-machine-learning-in-structural-health-monitoring-for-damage-identification-and-response-prediction-in-bridges/