UTC Project Information – Project #	
Project Title	Vision-Based Detection of Bridge Damage Captured by Unmanned Aerial Vehicles
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Funding Source(s) and Amounts Provided (by each agency or organization)	TIDC Request: $175,705 In-kind Contribution: $92,747 In-cash Contribution: $83,144
Total Project Cost	$351,597
Agency ID or Contract Number	
Start and End Dates	9/1/2022 - 6/30/2024
Brief Description of Research Project	Bridge inspection is a vital component of any bridge management strategy of a state DOT. A visual inspection is the predominant approach used in a routine inspection. With visual inspection, only basic tools are used. However, according to research, there can be significant variation in the condition ratings assigned to a structure simply based on visual inspection. The use of unmanned aerial vehicles (UAVs) has recently been explored for the use of bridge inspections. UAVs equipped with high resolution or infrared cameras can be used to scan a bridge taking hundreds of images and essentially building a navigable 3D model of the bridge. Additionally, recent advances in machine learning may be employed to automatically identify different types of bridge damage. This research project will evaluate the effectiveness of using more autonomous methods for the collection and analysis of bridge deck images for the purpose of identifying the type and extent of damage in concrete decks.