

Digital Twin Technology Applications for Transportation Infrastructure – A Survey-based Study

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ABSTRACT

In the last couple of decades, various industries have taken advantage of emerging advanced technologies, such as the digital twin, to find more effective solutions in their respective areas. In the transportation infrastructure sector, the implementation of digital twin technology is slowly gaining traction but lagging behind other major industries. To better understand the limitations, opportunities, and challenges for the adoption of digital twin technology in this sector, a survey questionnaire was distributed to collect information from industry professionals involved in transportation infrastructure projects. The purpose of this study is to understand how digital twin technology is being perceived by the industry. Based on the results of this survey, the current state of digital twins in the infrastructure sector, as well as the expected benefits, and potential challenges for the deployment of this technology are discussed here. This study aims to initiate discussion for future research in digital twin technology for transportation infrastructure applications.