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Machine Learning Approach to Project Control Threshold Reliability Evaluation

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Abstract : Planning is understood as the determination of what has to be performed, how, in which sequence, when, what resources are needed, and their cost within the organization before execution. In most construction project, it is evident that the inherent nature of planning is dynamic, and initial planning is subject to be changed due to various uncertain conditions of construction project. Planners take a continuous revision process during the course of a project and until the very end of project. However, current practice lacks reliable, systematic tool for setting variance thresholds to determine when and what corrective actions to be taken. Rather it is heavily dependent on the level of experience and knowledge of the planner. Thus, this paper introduces a machine learning approach to evaluate project control threshold reliability incorporating project-specific data and presents a method to automate the process. The results have shown that the model improves the efficiency and accuracy of the monitoring process as an early warning.

Keywords : machine learning, project control, project progress monitoring, schedule
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