

Federated Conference on Computer Science and Information Systems (Virtual Conference),  
Sofia, Bulgaria, 6-9 September 2020

Machine learning models to predict agile methodology adoption

Hanslo, R and Tanner, M

**Abstract:**

Agile software development methodologies are used in many industries of the global economy. The Scrum framework is the predominant Agile methodology used to develop, deliver, and maintain complex software products. While the success of software projects has significantly improved while using Agile methodologies in comparison to the Waterfall methodology, a large proportion of projects continue to be challenged or fails. The primary objective of this paper is to use machine learning to develop predictive models for Scrum adoption, identifying a preliminary model with the highest prediction accuracy. The machine learning models were implemented using multiple linear regression statistical techniques. In particular, a full feature set adoption model, a transformed logarithmic adoption model, and a transformed logarithmic with omitted features adoption model were evaluated for prediction accuracy. Future research could improve upon these findings by incorporating additional model evaluation and validation techniques.