World Academy of Science, Engineering and Technology
International Journal of Computer and Information Engineering
Vol:14, No:09, 2020

Machine Learning Development Audit Framework: Assessment and Inspection of Risk and Quality of Data, Model and Development Process

Authors : Jan Stodt, Christoph Reich

Abstract : The usage of machine learning models for prediction is growing rapidly and proof that the intended requirements are met is essential. Audits are a proven method to determine whether requirements or guidelines are met. However, machine learning models have intrinsic characteristics, such as the quality of training data, that make it difficult to demonstrate the required behavior and make audits more challenging. This paper describes an ML audit framework that evaluates and reviews the risks of machine learning applications, the quality of the training data, and the machine learning model. We evaluate and demonstrate the functionality of the proposed framework by auditing an steel plate fault prediction model.

Keywords : audit, machine learning, assessment, metrics
Conference Title : ICCPSCS 2020 : International Conference on Computer Systems and Computer Security
Conference Location : Amsterdam, Netherlands
Conference Dates : September 17-18, 2020