

Explainable Artificial Intelligence (XAI) in Auditing: A Framework and Research Needs

Abstract

As Artificial Intelligence (AI) and Machine Learning (ML) are gaining increasing attention in their potential applications in audits, one major challenge of their adoption is their lack of transparency or interpretability. As AI/ML matures, so do techniques that can enhance the explainability of AI, a.k.a., Explainable Artificial Intelligence (XAI). This paper introduces the state-of-the-art XAI techniques to accounting researchers and practitioners using terms familiar to them. We also provide a framework on how different XAI techniques can be used to meet requirements of existing auditing standards. Furthermore, we illustrate XAI techniques using a simulated auditing task of assessing the risk of material misstatement. This paper can contribute to both accounting research and practice in enhancing the transparency and interpretability of AI applications.