

THE USE OF MACHINE LEARNING TECHNIQUES IN ACCOUNTING. A SURVEY

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Abstract: Machine learning (ML) is a subset of artificial Intelligence (AI) that studies systems that can learn and continuously improve the abilities through generalization in an autonomous manner. ML is presently all around us, almost every facet of our digital and real life is embedding some ML related content. Customer recommendation systems, customer behavior prediction, fraud detection, speech recognition, image recognition, black & white movies colorization, accounting fraud detection are just some examples of the vast range of applications in which ML is involved. The techniques that this paper investigates are mainly focused on the use of neural networks in accounting and finance research fields. An artificial neural network is modelling the brain ability of learning intricate patterns from the information presented at its inputs using elementary interconnected units, named neurons, grouped in layers and trained by means of a learning algorithm. The performance of the network depends on many factors like the number of layers, the number of each neurons in each layer, the learning algorithm, activation functions, to name just a few of them. Machine learning algorithms have already started to replace humans in jobs that require document's processing and decision making. This evolution will continue in the future and some processes now requiring human expertise will became fully automated due to the use of ML techniques and algorithms.

Keyword: artificial intelligence, accounting, neural networks.