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## **MACHINE LEARNING IN SHARE TRADING: MITIGATING THE RISK OF INVALID TRADES**

### **Abstract:**

Technology is transforming the face of share trading. The modern share trader is no longer able to rely on manual calculations for the interpretation of the volume of available data or the calculations required for the prediction of share values, and relies on the use of machine learning to facilitate interpretations and decision-making. Due to the rate of innovation in machine learning, share traders using machine learning algorithms have been forced to adapt quickly and the consequence is a lack of governance of the use of machine learning algorithms in share trading. A significant component of effective IT governance is the identification and mitigation of inherent and incremental risks to business processes and strategies and the implementation of appropriate mitigating controls. The nature of machine learning leads to the risk that the algorithm used by the share trader does not suit the underlying data set, and as a result the output will not be valid, accurate and complete. Reliance is placed on machine learning technologies and important decisions, with significant monetary repercussions for businesses and clients, are concluded based on the output of share trading algorithms. The objective of this research is to understand the use of machine learning in share trading and to investigate the attributes of the most commonly used share trading algorithms. The findings will be used to develop a framework that will mitigate the risk by pairing these attributes with the characteristics of the underlying data sets and the objective of the share trader, ensuring that the objectives of validity, accuracy and completeness of results are met, resulting in valid trades.

### **Keywords:**

Share trading, machine learning, governance, risks, controls