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Text to analyze: Affective Algorithm for Controlling Emotional Fluctuation of Artificial Investors in Stock Markets

This paper presents the design of an affective algorithm for implementing autonomous decision-making systems that incorporate an emotional stabilizer mechanism for the use in the stock market domain. Emotions have a direct influence on human decision-making processes. Non-deterministic behavior in humans can be partially explained by emotions. In this sense, an artificial emotion can be implemented as a synthetic abstraction derived from the observation of human emotions. This paper presents studies related to emotional stability and emotional regulation. However, to the best of our knowledge, it is not possible to identify studies that define a relationship between the regulation of artificial emotions and the decision effectiveness of autonomous decision-making systems, specifically for the stock market domain. With the aim to improve investment results in the stock market domain, a mechanism based on artificial emotions is presented that was designed as a single layer of decision criteria defined by both rational and emotional perspectives. Along with the proposal of an emotional stabilizer mechanism, different values of emotional bandwidths and emotional update rates were tested, aiming to explore the degree of influence of these parameters on the effectiveness of investment decisions made by artificial investors. Our proposal considers the definition of an experimental scenario based on official data from the New York Stock Exchange. The results are promising and include a linear regression analysis. The test results suggest that the use of autonomous affective decision-making systems with emotional stabilization can improve the effectiveness of the decision made.

Sentence: The following sentence: 'Affective Algorithm for Controlling Emotional Fluctuation of

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