

Novel GPU Approach in Predicting the Directional Trend of the S&P500

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Abstract : Our goal is development of an algorithm capable of predicting the directional trend of the Standard and Poor's 500 index (S&P 500). Extensive research has been published attempting to predict different financial markets using historical data testing on an in-sample and trend basis, with many authors employing excessively complex mathematical techniques. In reviewing and evaluating these in-sample methodologies, it became evident that this approach was unable to achieve sufficiently reliable prediction performance for commercial exploitation. For these reasons, we moved to an out-of-sample strategy based on linear regression analysis of an extensive set of financial data correlated with historical closing prices of the S&P 500. We are pleased to report a directional trend accuracy of greater than 55% for tomorrow (t+1) in predicting the S&P 500.

Keywords : financial algorithm, GPU, S&P 500, stock market prediction

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