

Implementation of a Prediction-Based Cognitive Framework

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Abstract: Predictive analysis in many business domains is hampered by the massive quantities of information that must be analyzed. Given the relative strength of computers at processing large volumes of data, increasing the predictive powers of machines is an important goal. This paper describes a framework for human cognition that is based on empirical evidence for the role of prediction in cognition, and discusses how computational models might be derived from the framework. The framework continually produces and verifies predictions of its input data. A description is given of how a particular instance of the framework might be developed that can aid financial analysts in predicting the value of a time series of asset prices. A plan is outlined for how models derived from the framework might be trained. Mature, fully-trained models derived from the framework could be effective assistants to analysts faced with prediction tasks.