

Artificial Intelligence in Financial Applications

Benjamin W. Wah
Department of Electrical and Computer Engineering
and the Coordinated Science Laboratory
University of Illinois, Urbana-Champaign
Urbana, IL 61801, USA

Abstract

In this presentation we discuss the role of artificial intelligence in time-series predictions, including those of market-trend data and stock quotes. The time series in these applications is characterized by stationary and non-stationary data that may depend on non-quantifiable non-numeric measures, as well as recent information that may be significant in predicting near-term trends. A good predictor should involve not only predictions of non-stationary and stationary data but also the abstraction and integration of non-numeric information. After surveying various techniques for trend predictions and intelligent mining of financial data, we discuss the use of intelligent agents for the abstraction of non-numeric information, the decomposition of non-stationary time series into multiple stationary time series, and the prediction of trends using artificial neural networks. Finally, we show some interesting prediction results.