

ABSTRACT

INTELLIGENT TIME-SERIES ANALYTIC ENGINE

Implementations include receiving two or more time-series data sequences representative of a target process executed within a physical environment, executing automated time-series process segmentation to provide a plurality of subsequence segments for each of the two or more time-series data sequences, each subsequence segment corresponding to a phase of the target process, processing the two or more subsequence segments using at least one time-series transformation to provide a feature data set for each subsequence segment, applying each feature data set to provide time-series models for anomaly detection and forecasting, respectively, each time-series model being provided as one of a recurrent neural network (RNN), a convolution neural network (CNN), and a generative adversarial network (GAN), determining anomaly scores based on the time-series models, and selectively providing an alert to one or more users, each alert indicating at least one anomaly and a respective probability.

Fig. 1