Mesirow

Insights

Deep neural networks for FX prediction

Designing robust models for FX trade sizing and currency positioning

Using historical spot FX rates from 30 currency pairs dating back 16 years, Mesirow Currency's neural network models address the challenges that traditional machine learning techniques can face when trying to model financial time series.

Brief overview of classic machine learning pipelines

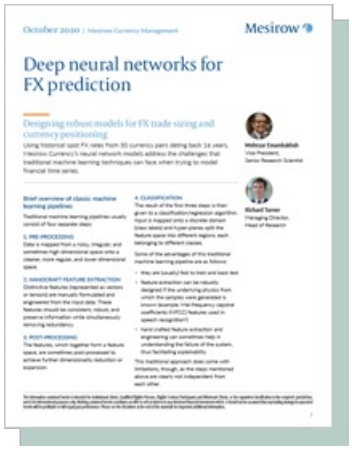
Traditional machine learning pipelines usually consist of four separate steps:

1. Pre-processing | Data is mapped from a noisy, irregular, and sometimes high dimensional space onto a cleaner, more regular, and lower dimensional space.

2. Handcraft feature extraction | Distinctive features (represented as vectors or tensors) are manually formulated and engineered from the input data. These features should be consistent, robust, and preserve information while simultaneously removing redundancy.

3. Post-processing | The features, which together form a feature space, are sometimes post-processed to achieve further dimensionality reduction or expansion.

4. Classification | The result of the first three steps is then given to a classification/regression algorithm. Input is mapped onto a discrete domain (class labels) and hyper-planes split the feature space into different regions, each belonging to different classes.



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