Predictive Analytics

Predictive methodologies use knowledge, usually extracted from historical data, to predict future, or otherwise unknown, events. Analytic techniques that fall into this category include a wide range of approaches to include parametric methods such as time series forecasting, linear regression, multilevel modeling, simulation methods such as discrete event simulation and agent-based modeling; classification methods such as logistic regression and decision trees; and artificial intelligence methods such as artificial neural networks and bayesian networks. The following tutorials walk you through common forms of predictive analytics.

Supervised Regression

- Preparing for Regression Problems
- Linear Regression
- Linear Model Selection
- Regularized Regression
- Regression Trees & Bagging
- Random Forests
- Gradient Boosting Machines
- Imprecise Regression

Supervised Classification

- Naïve Bayes
- Logistic Regression
- Linear & Quadratic Discriminant Analysis
- Support Vector Machines

Deep Learning

- Neural Network Fundamentals
- Neural Network for Regression
- Neural Network for Classification
- Feedforward Deep Learning with Keras & Tensorflow

Time Series

- Exploring & Visualizing Times Series
- Benchmark Methods & Forecast Accuracy
- Moving Averages
- Exponential Smoothing

Visualization for Model Interpretation

- Local Interpretable Model-agnostic Explanations (LIME)

Resampling Methods

- Resampling Basics