

Multivariate Time Series Models

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Abstract: In many forecasting problems, it may be the case that there is more than one variable to consider for our response y . Multivariate time series models involve several variables that are not only serially but also cross-correlated. Vector ARIMA models can often be used successfully to forecast multivariate time series, as it is in the uni-variate case.

Analyzing the auto-correlation function and cross-correlation function for a multivariate time series suggests the appropriate ARIMA model to be used.

Analyses of the residuals and the parameter estimates suggest if our model is appropriate to fit the data.