

Hard Core	STP 555: Practical VII: Based on all the Theory Papers	No. of credits: 3
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Practicals on STH 551: MULTIVARIATE ANALYSIS

1. Assessing normality of data – Q-Q plot and Chi-Square plot.
2. Hotellings T^2 statistic – I (one sample and two sample problem)
3. Principal Component Analysis and Canonical Correlation
4. Classification and discrimination
5. Factor Analysis

Practicals on STS 552: FINANCIAL TIME SERIES

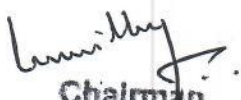
1. Plot of financial time series and examining the features of the series
2. ACF and PACF of Return series and squared Return series
3. Dickey Fuller Unit Root Test, Co-integration and error correction models
4. Fitting ARCH model
5. Fitting GARCH Model
6. Residual Analysis and Diagnostic Checking

Practicals on STS 553: DATA SCIENCE

1. Data preparation and validation.
2. Neural network: model selection and evaluation.
3. Bayesian classifier, SVM and k-NN classifier.
4. Random Forest.

Practicals on STS 554: SURVIVAL ANALYSIS

1. Cox proportional hazard model
2. Kaplan Meir Estimator and Greenwood's s Formula
3. Computation of failure rate and mean residual life
4. Accelerated failure model (any two distributions)


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