Statistical Inference

Instructor: Deepak Prajapati

Books:

1. Casella and Berger, Statistical Inference, 2nd Ed., Cengage, 2011.
2. An Introduction to Probability and Statistics by V.K. Rohatgi & A.K. Md. E. Saleh.

Syllabus:

Mode of Convergence, Convergence in Distribution, Convergence in Probability, Almost sure convergence, WLLN, SLLN, CLT.

Random sample, Point estimation, Estimator, Unbiasedness, Sufficiency, Minimal sufficiency, Factorization theorem.

Rao-Blackwell theorem, Completeness, Lehmann-Scheffe theorem, UMVUE, Lower bounds for the variance of an estimator, Frechet-Rao-Cramer.

Consistency, Efficiency, Method of moments and method of maximum likelihood, EM Algorithm, Bayesian Statistics, Bayes estimators and Minimax Procedure, Gibbs Sampling.