MATH 7695-8695: Bootstrap and Other Resampling Methods
Spring, 2017
MW 4pm-5:25pm (DH 203)
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Course Contents:

1. Overview of Bootstrap Methods

2. Basic Bootstraps

3. Bootstrap methods for complicated models (censored, missing data, ...)

4. Hypothesis testing using Bootstrap methods

5. Confidence Intervals Construction using Bootstrap methods

6. Bootstrap methods for linear regression models

7. Semiparametric Likelihood Inference

8. Computer Implementation

Textbook Used:

"*Bootstrap Methods and Their Application*", by A. C. Davison and D. V. Hinkley, Publisher: Cambridge University Press, Hardback ISBN 0-521-57391-2, Paperback ISBN 0-521-57471-4.

Software Used:

The use of R is required for this course. Additional software recommended: MAPLE.

R is a freely available language and environment for statistical computing and graphics which provides a wide variety of statistical and graphical techniques: linear and nonlinear modeling, statistical tests, time series analysis, classification, clustering, (in this class, bootstrap method) etc. R can be downloaded at `http://CRAN.R-project.org`

For a list of available packages, please see `http://CRAN.R-project.org/web/packages/`

Office Hours:

10am-11:30pm Monday, Wednesday (DH 219) or by appointment.

Grading:

Assignments	30%
Midterm Project	20%
Class Participation	15%
Final Project	35%