Course Design and Promotion : MA324 Statistical Inference and multivariate Analysis

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January 3, 2024

1 Important Information related to Course

2 Grading Scheme

- 3 Promotion of Statistics
 - ASA Promotion regarding Statistics

4 Reference

- Monday. (3:00 4:00 pm), Thursday (5:00 6:00 pm) and Friday. (4:00 5:00 pm)
- Extra-ordinary Day : Alternative option : Tuesday (2:00 3:00 pm).
- Class Room: 5102.

Text Book

Major Two:

- 1. R. V. Hogg, J. W. McKean and A. T. Craig, Introduction to Mathematical Statistics, 7th Ed., Pearson, 2013.
- 3. R. A. Johnson and D. W. Wichern, Applied Multivariate Statistical Analysis, 6th Ed., Prentice Hall of India, 2012.

On "T \\\	Andorcon	Λn	Introduction	+~	$M_{111}+i_{112}$:a+a C	tatictical	Analycic	3r4 E4	١٨

Wiley, 2015."

Analysis, 5th Ed., Wiley, 2012."

On "T. W. Anderson, An Introduction to Multivariate Statistical Analysis, 3rd Ed., Wiley, 2012."

Comments on "V. K. Rohatgi and A. K. Saleh, An Introduction to Probability and Statistics, 3rd Ed.,

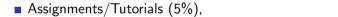
• Comments on "D. C. Montgomery, E. A. Peck and G. G. Vining, Introduction to Linear Regression

■ Comments on "G. Casella and R. L. Berger, Statistical Inference, 2nd Ed., Cengage Learning, 2006."

TEXT BOOKS

- 1 "Statistics and Finance : An Introduction" by David Ruppert
- 2 "Statistical Analysis of Financial Data in S-plus" : Rene Carmona
- 3 Tsay, Financial Time Series.

Avail Extra or relevant Lecture Notes: Moodle passwd: ma3242024 (check)



- Quiz (10%) [at least 2 (Coding + Non-coding)]
- Midsem exam (30%),
- Instructor Quota [Project Report, Attendance, Attitude, Class performance etc (labs) (5%)]
- Extra Assignment [10%] (We will explore the possibility or discard)

The grade for this course will be determined based on your performance on

■ Final Examination (40%).

- . Collection of Data
- Analysis of Data
- Interpretation of Data

Process we follow

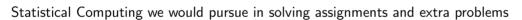
- Turning the data into information
- data-based decision making
- The technology of the "Scientific Method"

Take a look :

Focus Area :

Key Points and Past Experiences

Dealing with SIMA.pdf



- R -package
- Python

Live Tutorial :

Live Tutorial :

- Real Time Data
- Stored Data.
- Structured Data
- Un-Structured Data

- Missing DataCensored Data
- Small sample data
- Data with abnormal observations
- Dependent Data
- Multi-dimensional Data
- The list goes on..

- Take a small sample
- \blacksquare Build your algorithms on Small sample
- Simulation to verify your algorithm.
- Establish Theoretical Evidence on large sample.
- etc

Primary Objective: Error analysis in decision making system.

• Most of the theory can be visualised through computer simulation.

- Approximate calculation/guess requires further methodology or theoretical development.
- Validation and testing on New observations is utmost important.
- Reporting the Error level in the end.

Goal Same.. God one: ML handles large/very big data; Statistical Approach Never

- Limitations.Approaches
- Beyond :
- Adaptive
- Heuristic
- Intuition based
- Our choices on specific Problems beyond domain.

Thank you for your attention !!