

Mathematical Statistics I

Chapter 5: Limit theorems

Jesse Wheeler

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1 Convergence Concepts

Introduction

- This material comes primarily from Rice (2007, Chapter 4).
- We will cover the ideas of expected value, variance, as well as higher-order moments.
- This includes topics such as conditional expectation, which is one of the fundamental ideas behind many branches of statistics and machine learning.
- For instance, most regression / prediction algorithms are built with the idea of minimizing some conditional expectation.

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- We acknowledge [students and instructors for previous versions of this course / slides](#).

References

Rice JA (2007). *Mathematical statistics and data analysis*, volume 371. 3 edition. Thomson/Brooks/Cole Belmont, CA. [1](#)