Supervised Learning Program
Probability

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Abstract

This is the running document for the supervised learning program I am doing this semester under the guidance of Prof. Ayan Bhattacharya. The aim of this document is to provide a comprehensive understanding of the topics I cover in the program. The document is divided into chapters, each chapter covering what I have learned in a week. The document is a work in progress and will be updated regularly. The references I am using for this program are mentioned in the beginning of each chapter.

Chapter 1

Week 1

Abstract

Covered Topics:

- Chapter 1-5 from the book

References: Lecture notes of Prof. Ayan Bhattacharya [1] and the book by Lesigne [2]

1.1 Basic Probability

Let (Ω, P) be a finite probability space.

Bibliography

[1] Ayan Bhattacharya. Lecture notes on probability ii. SI 537 IIT Bombay, Autumn 2024-25.

[2] E. Lesigne. *Heads or Tails: An Introduction to Limit Theorems in Probability*. Student mathematical library. American Mathematical Society, 2005.