Conditional Expectation
A Literature Review

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Contents

1   Notation

Throughout this note, the set of natural numbers, the set of integers, the set of non-negative integers, the set of real numbers, n-dimensional Euclidean space, the set of n by m matrices, and the set of n by n symmetric matrices are respectively denoted by $\mathbb{N}$, $\mathbb{Z}$, $\mathbb{Z}_+$, $\mathbb{R}$, $\mathbb{R}^n$, $\mathbb{R}^{n \times m}$, and $\mathbb{S}^n$. Also, the cone of positive semi-definite of matrices in $\mathbb{S}^n$ is denoted by $\mathbb{S}^n_+$. The interior of $\mathbb{S}^n_+$ is denoted by $\mathbb{S}^n_{++}$, that is exactly the set of positive definite matrices.

2 Main Definitions

Let ...

A Appendix: Proofs

A.1 Proofs of Section ??