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3.2.5. Projective Shape Spaces  $P_k$ ; 3.3. Frechet Means on Metric Spaces; 3.4. Extrinsic Means on Manifolds; 3.4.1. Asymptotic Distribution of the Extrinsic Sample Mean; 3.5. Intrinsic Means on Manifolds; 3.6. Applications; 3.6.1.  $S_d$ ; 3.6.1.1. Extrinsic Mean on  $S_d$ ; 3.6.1.2. Intrinsic Mean on  $S_d$ ; 3.6.2.  $RP_d$ ; 3.6.2.1. Extrinsic Mean on  $RP_d$ ; 3.6.2.2. Intrinsic Mean on  $RP_d$ ; 3.6.3.  $k$  m; 3.6.4.  $k^2$ ; 3.6.4.1. Extrinsic Mean on  $k^2$ ; 3.6.4.2. Intrinsic Mean on  $k^2$ ; 3.6.5.  $R_k$  m; 3.6.6.  $A_k$  m; 3.6.7.  $P_0k$  m; 3.7. Examples; 3.7.1. Example 1: Gorilla Skulls; 3.7.2. Example 2: Schizophrenic Children; 3.7.3. Example 3: Glaucoma Detection Acknowledgment; References; 4. Reinforcement Learning - A Bridge Between Numerical Methods and Monte Carlo V. S. Borkar; 4.1. Introduction; 4.2. Stochastic Approximation; 4.3. Estimating Stationary Averages; 4.4. Function Approximation; 4.5. Estimating Stationary Distribution; 4.6. Acceleration Techniques; 4.7. Future Directions; References; 5. Factors, Roots and Embeddings of Measures on Lie Groups S. G. Dani; 5.1. Introduction; 5.2. Some Basic Properties of Factors and Roots; 5.3. Factor Sets; 5.4. Compactness; 5.5. Roots; 5.6. One-Parameter Semigroups; References 6. Higher Criticism in the Context of Unknown Distribution, Non-independence and Classification A. Delaigle and P. Hall; 6.1. Introduction; 6.2. Methodology; 6.2.1. Higher-criticism signal detection; 6.2.2. Generalising and adapting to an unknown null distribution; 6.2.3. Classifiers based on higher criticism; 6.3. Theoretical Properties; 6.3.1. Effectiveness of approximation to hcW by hcW; 6.3.2. Removing the assumption of independence; 6.3.3. Delineating good performance; 6.4. Further Results; 6.4.1. Alternative constructions of hcW and hcW; 6.4.2. Advantages of incorporating the threshold

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Sommario/riassunto

This book presents a collection of invited articles by distinguished probabilists and statisticians on the occasion of the Platinum Jubilee Celebrations of the Indian Statistical Institute - a notable institute with significant achievement in research areas of statistics, probability and mathematics - in 2007. With a wide coverage of topics in probability and statistics, the articles provide a current perspective of different areas of research, emphasizing the major challenging issues. The book also proves its reference and utility value for practitioners as the articles in Statistics contain

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