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Nota di contenuto	Intermediate Probability; Chapter Listing; Contents; Preface; Part I Sums of Random Variables; 1 Generating functions; 1.1 The moment generating function; 1.1.1 Moments and the m.g.f.; 1.1.2 The cumulant generating function; 1.1.3 Uniqueness of the m.g.f.; 1.1.4 Vector m.g. f.; 1.2 Characteristic functions; 1.2.1 Complex numbers; 1.2.2 Laplace transforms; 1.2.3 Basic properties of characteristic functions; 1.2.4 Relation between the m.g.f. and c.f.; 1.2.5 Inversion formulae for mass and density functions; 1.2.6 Inversion formulae for the c.d.f.; 1.3 Use of the fast Fourier transform 1.3.1 Fourier series1.3.2 Discrete and fast Fourier transforms; 1.3.3 Applying the FFT to c.f. inversion; 1.4 Multivariate case; 1.5 Problems; 2 Sums and other functions of several random variables; 2.1 Weighted sums of independent random variables; 2.2 Exact integral expressions for functions of two continuous random variables; 2.3 Approximating the mean and variance; 2.4 Problems; 3 The multivariate normal distribution; 3.1 Vector expectation and variance; 3.2 Basic properties of the multivariate normal; 3.3 Density and moment generating function; 3.4 Simulation and c.d.f. calculation 3.5 Marginal and conditional normal distributions3.6 Partial correlation;

Sommario/riassunto

Intermediate Probability is the natural extension of the author's Fundamental Probability. It details several highly important topics, from standard ones such as order statistics, multivariate normal, and convergence concepts, to more advanced ones which are usually not addressed at this mathematical level, or have never previously appeared in textbook form. The author adopts a computational approach throughout, allowing the reader to directly implement the methods, thus greatly enhancing the learning experience and clearly illustrating the applicability, strengths, and weaknesses of the theor