

Continuous Distributions in Engineering and the Applied Sciences -- Part II

This is the second part of our book on continuous statistical distributions. It covers inverse-Gaussian, Birnbaum-Saunders, Pareto, Laplace, central χ^2 , t , F , Weibull, Rayleigh, Maxwell, and extreme value distributions. Important properties of these distribution are documented, and most common practical applications are discussed. This book can be used as a reference material for graduate courses in engineering statistics, mathematical statistics, and econometrics. Professionals and practitioners working in various fields will also find some of the chapters to be useful.

Although an extensive literature exists on each of these distributions, we were forced to limit the size of each chapter and the number of references given at the end due to the publishing plan of this book that limits its size. Nevertheless, we gratefully acknowledge the contribution of all those authors whose names have been left out.

Some knowledge in introductory algebra and college calculus is assumed throughout the book. Integration is extensively used in several chapters, and many results discussed in Part I (Chapters 1 to 9) of our book are used in this volume.

Chapter 10 is on Inverse Gaussian distribution and its extensions. The Birnbaum-Saunders distribution and its extensions along with applications in actuarial sciences is discussed in Chapter 11. Chapter 12 discusses Pareto distribution and its extensions. The Laplace distribution and its applications in navigational errors is discussed in the next chapter. This is followed by central chi-squared distribution and its applications in statistical inference, bioinformatics and genomics. Chapter 15 discusses Student's t distribution, its extensions and applications in statistical inference. The F distribution and its applications in statistical inference appears next. Chapter 17 is on Weibull distribution and its applications in geology and reliability engineering. Next two chapters are on Rayleigh and Maxwell distributions and its applications in communications, wind energy modeling, kinetic gas theory, nuclear and thermal engineering, and physical chemistry. The last chapter is on Gumbel distribution, its applications in the law of rare exceedances.

Suggestions for improvement are welcome. Please send them to rajan.chattamvelli@vit.ac.in.

This is the second part of our book on continuous statistical distributions. It covers inverse-Gaussian, Birnbaum-Saunders, Pareto, Laplace, central χ^2 , t , F , Weibull, Rayleigh, Maxwell, and extreme value distributions. Important properties of these distribution are documented, and most common practical applications are discussed. This book can be used as a reference material for graduate courses in engineering statistics, mathematical statistics, and econometrics. Professionals and practitioners working in various fields will also find some of the chapters to be useful.

Although an extensive literature exists on each of these distributions, we were forced to limit the size of each chapter and the number of references given at the end due to the publishing plan of this book that limits its size. Nevertheless, we gratefully acknowledge the contribution of all those authors whose names have been left out.

Some knowledge in introductory algebra and college calculus is assumed throughout the book. Integration is extensively used in several chapters, and many results discussed in Part I (Chapters 1 to 9) of our book are used in this volume.

Chapter 10 is on Inverse Gaussian distribution and its extensions. The Birnbaum-Saunders distribution and its extensions along with applications in actuarial sciences is discussed in Chapter 11. Chapter 12 discusses Pareto distribution and its extensions. The Laplace distribution and its applications in navigational errors is discussed in the next chapter. This is followed by central chi-squared distribution and its applications in statistical inference, bioinformatics and genomics. Chapter 15 discusses Student's t distribution, its extensions and applications in statistical inference. The F distribution and its applications in statistical inference appears next. Chapter 17 is on Weibull distribution and its applications in geology and reliability engineering. Next two chapters



58,84 €

54,99 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

Artikelnummer: 9783031013072

Medium: Buch

ISBN: 978-3-031-01307-2

Verlag: Springer

Erscheinungstermin: 06.07.2021

Sprache(n): Englisch

Auflage: Erscheinungsjahr 2021

Serie: Synthesis Lectures on

Mathematics & Statistics

Produktform: Kartoniert

Gewicht: 334 g

Seiten: 145

Format (B x H): 191 x 235 mm

