

The Skew-Normal and Related Families

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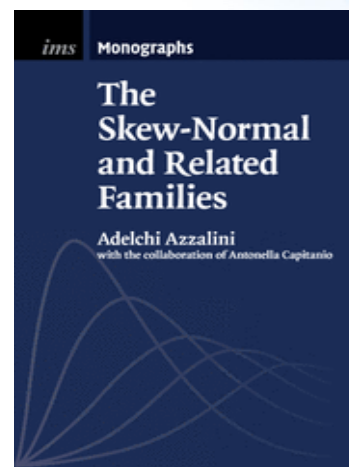
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Interest in the skew-normal and related families of distributions has grown enormously over recent years, as theory has advanced, challenges of data have grown, and computational tools have made substantial progress. This comprehensive treatment, blending theory and practice, will be the standard resource for statisticians and applied researchers. Assuming only basic knowledge of (non-measure-theoretic) probability and statistical inference, the book is accessible to the wide range of researchers who use statistical modelling techniques. Guiding readers through the main concepts and results, it covers both the probability and the statistics sides of the subject, in the univariate and multivariate settings. The theoretical development is complemented by numerous illustrations and applications to a range of fields including quantitative finance, medical statistics, environmental risk studies, and industrial and business efficiency. The author's freely available R package *sn*, available from CRAN, equips readers to put the methods into action with their own data.

Preface; 1. Modulation of symmetric densities; 2. The skew-normal distribution: probability; 3. The skew-normal distribution: statistics; 4. Heavy and adaptive tails; 5. The multivariate skew-normal distribution; 6. Skew-elliptical distributions; 7. Further extensions and other directions; 8. Application-oriented work; Appendices; References.



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