Preface

The Springer Handbook of Engineering Statistics, altogether 54 chapters, aims to provide a comprehensive state-of-the-art reference volume that covers both fundamental and theoretical work in the areas of engineering statistics including failure time models, accelerated life testing, incomplete data analysis, stochastic processes, Bayesian inferences, data collection, Bootstrap models, burn-in and screening, competing risk models, correlated data analysis, counting processes, proportional hazards regression, design of experiments, DNA sequence analysis, empirical Bayes, genetic algorithms, evolutionary model, generalized linear model, geometric process, life data analysis, logistic regression models, longitudinal data analysis, maintenance, data mining, six sigma, Martingale model, missing data, influential observations, multivariate analysis, multivariate failure model, nonparametric regression, DNA sequence evolution, system designs, optimization, random walks, partitioning methods, resampling method, financial engineering and risks, scan statistics, semiparametric model, smoothing and splines, step-stress life testing, statistical process control, statistical inferences, statistical design and diagnostics, process control and improvement, biological statistical models, sampling technique, survival model, time-series model, uniform experimental designs, among others.

The chapters in this handbook have outlined into six parts, each contains nine chapters except Part E and F, as follows:

Part A Fundamental Statistics and Its Applications
Part B Process Monitoring and Improvement
Part C Reliability Models and Survival Analysis
Part D Regression Methods and Data Mining
Part E Statistical Methods and Modeling
Part F Applications in Engineering Statistics

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All the chapters are written by over 100 outstanding scholars in their fields of expertise. I am deeply indebted and wish to thank all of them for their contributions and cooperation. Thanks are also due to the Springer staff for their patience and editorial work. I hope that practitioners will find this Handbook useful when looking for solutions to practical problems; researchers, statisticians, scientists and engineers, teachers and students can use it for quick access to the background, recent research and trends, and most important references regarding certain topics, if not all, in the engineering statistics.

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