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Sommario/riassunto

This textbook gives an overview of statistical methods that have been developed during the last years due to increasing computer use, including random number generators, Monte Carlo methods, Markov Chain Monte Carlo (MCMC) methods, Bootstrap, EM algorithms, SIMEX, variable selection, density estimators, kernel estimators, orthogonal and local polynomial estimators, wavelet estimators, splines, and model assessment. Computer Intensive Methods in Statistics is written for students at graduate level, but can also be used by practitioners. Features Presents the main ideas of computer-intensive statistical methods Gives the algorithms for all the methods Uses various plots and illustrations for explaining the main ideas Features the theoretical backgrounds of the main methods. Includes R codes for the methods and examples Silvelyn Zwanzig is an Associate Professor for Mathematical Statistics at Uppsala University. She studied Mathematics at the Humboldt- University in Berlin. Before coming to Sweden, she was Assistant Professor at the University of Hamburg in Germany. She received her Ph.D. in Mathematics at the Academy of Sciences of the GDR. Since 1991, she has taught Statistics for undergraduate and graduate students. Her research interests have moved from theoretical statistics to computer intensive statistics. Behrang Mahjani is a postdoctoral fellow with a Ph.D. in Scientific Computing with a focus on Computational Statistics, from Uppsala University, Sweden. He joined the Seaver Autism Center for Research and Treatment at the Icahn School of Medicine at Mount Sinai, New York, in September 2017 and was formerly a postdoctoral fellow at the Karolinska Institutet, Stockholm, Sweden. His research is focused on solving large-scale problems through statistical and computational methods.