Record Nr. UNINA9910917791903321 Autore Rudas Tamas Titolo Lectures on Advanced Topics in Categorical Data Analysis / / by Tamás Rudas Cham:,: Springer Nature Switzerland:,: Imprint: Springer,, 2024 Pubbl/distr/stampa **ISBN** 9783031558559 3031558553 Edizione [1st ed. 2024.] Descrizione fisica 1 online resource (385 pages) Collana Springer Texts in Statistics, , 2197-4136 Disciplina 001.422 Soggetti Statistics Social sciences - Statistical methods **Biometry** Statistical Theory and Methods Statistics in Social Sciences, Humanities, Law, Education, Behavorial Sciences, Public Policy **Biostatistics** Biometria Llibres electrònics Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di contenuto 1. Introduction -- 2. Undirected graphical models -- 3. Directed graphical models -- 4. Marginal models: definition -- 5. Marginal loglinear models: applications -- 6. Path models -- 7. Relational models: definition and interpretation -- 8. Relational models as exponential families -- 9. Relational models: estimation and testing -- 10. Model testing -- 11. The mixture index of fit. Sommario/riassunto This book continues the mission of the previous text by the author, Lectures on Categorical Data Analysis, by expanding on the introductory concepts from that volume and providing a mathematically rigorous presentation of advanced topics and current research in statistical techniques which can be applied in the social, political,

behavioral, and life sciences. It presents an intuitive and unified discussion of an array of themes in categorical data analysis, and the emphasis on structure over stochastics renders many of the methods

applicable in machine learning environments and for the analysis of big data. The book focuses on graphical models, their application in causal analysis, the analytical properties of parameterizations of multivariate discrete distributions, marginal models, and coordinate-free relational models. To guide the readers in future research, the volume provides references to original papers and also offers detailed proofs of most of the significant results. Like the previous volume, it features exercises and research questions, making it appropriate for graduate students, as well as for active researchers.