

Lauritzen, Steffen L.

Graphical models. (English) Zbl 0907.62001

[Oxford Statistical Science Series](#) 17. Oxford: Oxford Univ. Press (ISBN 0-19-852219-3). x, 298 p. (1996).

As the author states the development of the material in this monograph has been profoundly influenced by his meetings and collaboration with Terry Speed, Nanny Wermuth and David Spiegelhalter. He started writing the book in 1986 during his sabbatical at the Statistical Laboratory in Cambridge and taught a compact draft of it to students at Aalborg University in 1993. The book is a research monograph primarily concerned with the fundamental mathematical and statistical theory of graphical models and it is composed of the following seven chapters.

1. Introduction; 2. Graphs and hypergraphs; 3. Conditional independence and Markov properties; 4. Contingency tables; 5. Multivariate normal models; 6. Models for mixed data; 7. Further topics. There are also four appendices covering various prerequisites, linear algebra and random vectors, the multivariate normal distribution, and exponential models. Each chapter ends with bibliographical notes and the bibliography is extensive. The monograph is primarily targeted for statistics researchers and graduate students.

Reviewer: [A.N.Philippou \(Nicosia\)](#)

MSC:

- [62-02](#) Research exposition (monographs, survey articles) pertaining to statistics
- [05C90](#) Applications of graph theory
- [62H99](#) Multivariate analysis
- [05C65](#) Hypergraphs

Cited in **5** Reviews
Cited in **730** Documents

Keywords:

[conditional independence](#); [contingency tables](#); [Markov properties](#); [mixed data](#)