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Uncertain inference. (English) [Zbl 1023.03002](#)

Cambridge: Cambridge University Press (ISBN 978-0-521-00101-4/pbk; 0-521-80064-1/hbk; 978-0-511-61294-7/ebook). xii, 298 p. (2001).

An overview of a wide variety of approaches to uncertainty and uncertain inference is provided within a unified framework. After a historical introduction by Mark Wheeler, the reader is introduced to first-order logic, the probability calculus, conditional probability and an overview of the different interpretations of probability. Chapter 5 deals with nonstandard measures of support, while the next two chapters review nonmonotonic reasoning and belief revision. Chapters 8 and 9 are devoted to statistical inference and evidential probability. The last three chapters deal with semantics, applications and scientific inference. The book will be of interest to students and researchers in several fields, such as philosophy, computer science, artificial intelligence, game theory and economics.

Reviewer: [G.Bonanno \(Davis\)](#)

MSC:

- [03-02](#) Research exposition (monographs, survey articles) pertaining to mathematical logic and foundations
- [03B48](#) Probability and inductive logic
- [68T37](#) Reasoning under uncertainty in the context of artificial intelligence
- [68T27](#) Logic in artificial intelligence
- [03B42](#) Logics of knowledge and belief (including belief change)
- [03B60](#) Other nonclassical logic
- [03-01](#) Introductory exposition (textbooks, tutorial papers, etc.) pertaining to mathematical logic and foundations
- [00A30](#) Philosophy of mathematics
- [60A05](#) Axioms; other general questions in probability
- [62A01](#) Foundations and philosophical topics in statistics

Cited in **22** Documents

Keywords:

[uncertainty](#); [uncertain inference](#); [conditional probability](#); [nonmonotonic reasoning](#); [belief revision](#); [statistical inference](#); [evidential probability](#); [scientific inference](#)

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