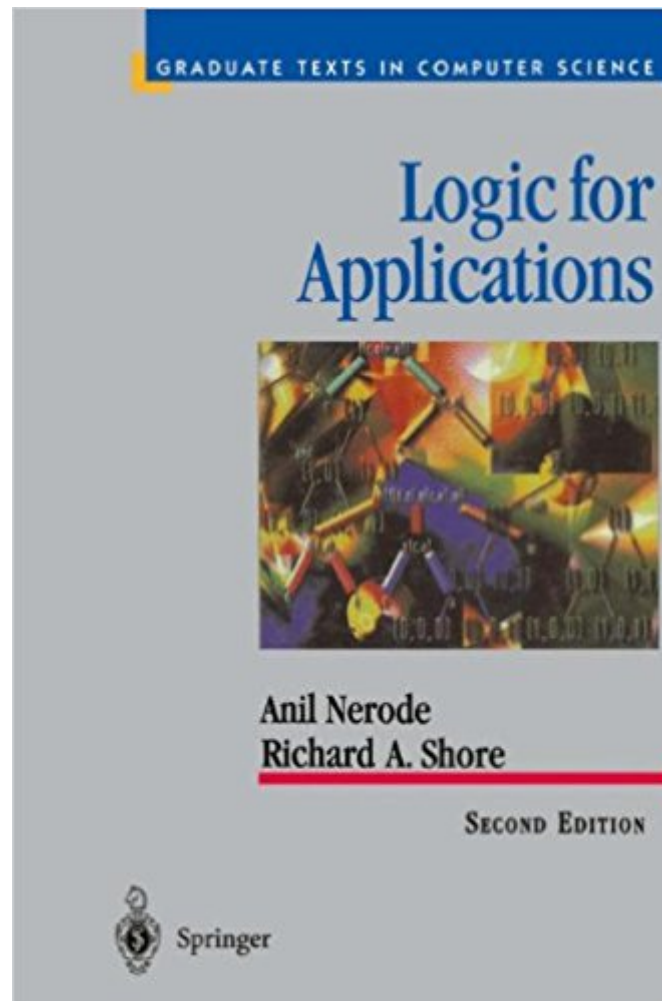


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Logic For Applications (Texts In Computer Science)



Synopsis

In writing this book, our goal was to produce a text suitable for a first course in mathematical logic more attuned than the traditional textbooks to the recent dramatic growth in the applications of logic to computer science. Thus, our choice of topics has been heavily influenced by such applications. Of course, we cover the basic traditional topics: syntax, semantics, soundness, completeness and compactness as well as a few more advanced results such as the theorems of Skolem-Lowenheim and Herbrand. Much of our book, however, deals with other less traditional topics. Resolution theorem proving plays a major role in our treatment of logic especially in its application to Logic Programming and PROLOG. We deal extensively with the mathematical foundations of all three of these subjects. In addition, we include two chapters on nonclassical logics - modal and intuitionistic - that are becoming increasingly important in computer science. We develop the basic material on the syntax and semantics (via Kripke frames) for each of these logics. In both cases, our approach to formal proofs, soundness and completeness uses modifications of the same tableau method introduced for classical logic. We indicate how it can easily be adapted to various other special types of modal logics. A number of more advanced topics (including nonmonotonic logic) are also briefly introduced both in the nonclassical logic chapters and in the material on Logic Programming and PROLOG.

Book Information

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Customer Reviews

This book is very carefully written to take care of its computer science and mathematics audience. The writing style is concise, yet unlike some other logic books, this one is far less dense and the content can easily be followed by an advanced undergraduate student (also, of course, by graduate students). The book contains a relatively balanced coverage on logic. The six sections include Propositional Logic, Predicate Logic, PROLOG, Modal Logic, Intuitionistic Logic and Elements of Set Theory. There is also a concise appendix on the history of logic development. I especially like the authors' careful treatment on the logics in PROLOG. Also, the authors have taken very good care in preparing the manuscript and my whole class can only find about ten typos after spending a whole semester using this book. Indeed, this book can easily be re-titled to be "What Every Computer Scientists Should Know About Logic". Highly recommended.

I am currently an undergraduate computer science student, and as such, I say that this book was of great help to me in understanding both the basics and more advanced features of logic. I can't say anything about the very advanced parts of the book but if the writing style is the same as in the first 2 chapters, then it should be a great book for both undergraduate and graduate students.

The book was in the condition I expected it to be in. Just needed it for school, and this was cheap. No complaints here.

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