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# Inductive Databases and Constraint-Based Data Mining

- Provides a broad and unifying perspective on the field of data mining in general and inductive databases in particular
- Includes constraint-based mining of predictive models for structured data / outputs, integration/unification of pattern and model mining at the conceptual level
- Discusses applications to practically relevant problems in bioinformatics

This book is about inductive databases and constraint-based data mining, emerging research topics lying at the intersection of data mining and database research. The aim of the book is to provide an overview of the state-of-the-art in this novel and - citing research area. Of special interest are the recent methods for constraint-based mining of global models for prediction and clustering, the unification of pattern mining approaches through constraint programming, the clarification of the relationship between mining local patterns and global models, and the proposed integrative frameworks and approaches for inductive databases. On the application side, applications to practically relevant problems from bioinformatics are presented. Inductive databases (IDBs) represent a database view on data mining and knowledge discovery. IDBs contain not only data, but also generalizations (patterns and models) valid in the data. In an IDB, ordinary queries can be used to access and - nipulate data, while inductive queries can be used to generate (mine), manipulate, and apply patterns and models. In the IDB framework, patterns and models become "first-class citizens" and KDD becomes an extended querying process in which both the data and the patterns/models that hold in the data are queried.

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