

Advanced Database Systems Lecture Notes

This book constitutes the refereed proceedings of the 11th International Conference on Database Systems for Advanced Applications, DASFAA 2006, held in Singapore in April 2006. 46 revised full papers and 16 revised short papers presented were carefully reviewed and selected from 188 submissions. Topics include sensor networks, subsequence matching and repeating patterns, spatial-temporal databases, data mining, XML compression and indexing, xpath query evaluation, uncertainty and streams, peer-to-peer and distributed networks and more.

This volume contains three keynote papers and 51 technical papers from contributors around the world on topics in the research and development of database systems, such as Data Modelling, Object-Oriented Databases, Active Databases, Data Mining, Heterogeneous Databases, Distributed Databases, Parallel Query Processing, Multi-Media Databases, Transaction Management Systems, Document Databases, Temporal Databases, Deductive Databases, User Interface, and Advanced Database Applications.

This book presents recent research in intelligent information and database systems. The carefully selected contributions were initially accepted for presentation as posters at the 9th Asian Conference on Intelligent Information and Database Systems (ACIIDS 2017) held from to 5 April 2017 in Kanazawa, Japan. While the contributions are of an advanced scientific level, several are accessible for non-expert readers. The book brings together 47 chapters divided into six main parts: • Part I. From Machine Learning to Data Mining. • Part II. Big Data and Collaborative Decision Support Systems, • Part III. Computer Vision Analysis, Detection, Tracking and Recognition, • Part IV. Data-Intensive Text Processing, • Part V. Innovations in Web and Internet Technologies, and • Part VI. New Methods and Applications in Information and Software Engineering. The book is an excellent resource for researchers and those working in algorithmics, artificial and computational intelligence, collaborative systems, decision management and support systems, natural language processing, image and text processing, Internet technologies, and information and software engineering, as well as for students interested in such research areas.

Combines language tutorials with application design advice to cover the PHP server-side scripting language and the MySQL database engine.

Expanding the Definition of "Database". First International Conference, CIKM '92, Baltimore, Maryland, USA, November 8-11, 1992. Selected Papers

Triggers and Rules for Advanced Database Processing

Advanced Database Query Systems

Database Systems:A Practical Approach to Design, Implementation and Management with Corporate Computer and Network Security:(International Edition) and Making the Team (International Edition) with Success in Your Project

Principles of Database Management

Database Systems For Advanced Applications '97 - Proceedings Of The 5th International Conference On Database Systems For Advanced Applications

This book constitutes the workshop proceedings of the 15th International Conference on Database Systems for Advanced Applications, DASFAA 2010, held in Tsukuba, Japan, in April 2010. The volume contains six workshops, each focusing on specific research issues that contribute to the main themes of the DASFAA conference: The First International Workshop on Graph Data Management: Techniques and Applications (GDM 2010), The Second International Workshop on Benchmarking of Database Management Systems and Data-Oriented Web Technologies (BenchmarkX'10); The Third International Workshop on Managing Data Quality in Collaborative Information Systems (MCIS2010), The Workshop on Social Networks and Social Media Mining on the Web (SNSMW2010), The Data Intensive eScience Workshop (DIEW 2010), and The Second International Workshop on Ubiquitous Data Management (UDM2010).

The database field has experienced a rapid and incessant growth since the development of relational databases. The progress in database systems and applications has produced a diverse landscape of specialized technology areas that have often become the exclusive domain of research specialists. Examples include active databases, temporal databases, object-oriented databases, deductive databases, imprecise reasoning and queries, and multimedia information systems. This book provides a systematic introduction to and an in-depth treatment of these advanced database areas. It supplies practitioners and researchers with authoritative coverage of recent technological advances that are shaping the future of commercial database systems and intelligent information systems. Advanced Database Systems was written by a team of six leading specialists who have made significant contributions to the development of the technology areas covered in the book. Benefiting from the authors' long experience teaching graduate and professional courses, this book is designed to provide a gradual introduction to advanced research topics and includes many examples and exercises to support its use for individual study, desk reference, and graduate classroom teaching.

Active database systems enhance traditional database functionality with powerful rule-processing capabilities, providing a uniform and efficient mechanism for many database system applications. Among these applications are integrity constraints, views, authorization, statistics gathering, monitoring and alerting, knowledge-based systems, expert systems, and workflow management. This significant collection focuses on the most prominent research projects in active database systems. The project leaders for each prototype system provide detailed discussions of their projects and the relevance of their results to the future of active database systems. Features: A broad overview of current active database systems and how they can be extended and improved A comprehensive introduction to the core topics of the field, including its motivation and history Coverage of active database (trigger) capabilities in commercial products Discussion of forthcoming standards

With growing memory sizes and memory prices dropping by a factor of 10 every 5 years, data having a "primary home" in memory is now a reality. Main-memory databases eschew many of the traditional architectural pillars of relational database systems that optimized for disk-resident data. The result of these memory-optimized designs are systems that feature several innovative approaches to fundamental issues (e.g., concurrency control, query processing) that achieve orders of magnitude performance improvements over traditional designs. This monograph provides an overview of recent developments in main-memory database systems. It covers five main issues and architectural choices that need to be made when building a high performance main-memory optimized database: data organization and storage, indexing, concurrency control, durability and recovery techniques, and query processing and compilation. The monograph focuses on four commercial and research systems: H-Store/VoltDB, Hekaton, HyPer, and SAPHANA. These systems are diverse in their design choices and form a representative sample of the state of the art in main-memory database systems. It also covers other commercial and academic systems, along with current and future research trends.

Database System Implementation

15th International Conference, DASFAA 2010, International Workshops: GDM, BenchmarX, MCIS, SNSMW, DIEW, UDM, Tsukuba, Japan, April 1-4, 2010, Revised Selected Papers

10th British National Conference on Databases, BNCOD 10, Aberdeen, Scotland, July 6 - 8, 1992. Proceedings

Intelligent Information and Database Systems

10th International Conference, DASFAA 2005, Beijing, China, April 17-20, 2005, Proceedings

Techniques, Applications and Technologies

The Handbook provides practitioners, scientists and graduate students with a good overview of basic notions, methods and techniques, as well as important issues and trends across the broad spectrum of data management. In particular, the book covers fundamental topics in the field such as distributed databases, parallel databases, active management, workflow management, data warehousing, data mining, mobile computing, data integration and the Web. Summing up, the Handbook is a valuable source of information for academics and practitioners who are interested in learning the key ideas in the considered area.

Advanced Database SystemsSpringer Science & Business Media

All of today's mainstream database products support the SQL language, and relational theory is what SQL is supposed to be based on. But are those products truly relational? Sadly, the answer is no. This book shows you what a real relational product would be like, and how and why it would be so much better than what's currently available. systems as programming systems Get a careful, precise, and detailed definition of the relational model Explore a detailed analysis of SQL from a relational point of view There are literally hundreds of books on relational theory or the SQL language or both. But this one is different. First, nobody is more qualified than Chris Date to write such books. He and I were colleagues for many years, and Chris's involvement with the technology goes back to the time of Codd's first papers in 1969 and 1970. Second, most books try to use SQL as a vehicle for teaching relational theory, but this book deliberately takes the opposite approach. Its primary aim is to teach relational theory as such. Then it uses SQL to show how that theory can help with the practical problem of using SQL correctly and productively. Any computer professional who wants to understand what relational systems are all about can benefit from this book. No prior knowledge of databases is assumed.

Advanced Database Query Systems: Techniques, Applications and Technologies focuses on technologies and methodologies of database queries, XML and metadata queries, and applications of database query systems, aiming at providing a single account of tech

11th International Conference, DASFAA 2006, Singapore, April 12-15, 2006, Proceedings

From Relations to Semistructured Data and XML

Active Database Systems

Readings in Database Systems

Advances in Exception Handling Techniques

Written by internationally recognized authorities in the database field, this book delivers a thorough discussion of the foundations of the relational model of database design, along with a systematic treatment of the formal theory for the model. In addition, the authors provide a survey of the performance of the model and include an encyclopedic reference to the available literature.

Tuning your database for optimal performance means more than following a few short steps in a vendor-specific guide. For maximum improvement, you need a broad and deep knowledge of basic tuning principles, the ability to gather data in a systematic way, and the skill to make your system run faster. This is an art as well as a science, and Database Tuning: Principles, Experiments, and Troubleshooting Techniques will help you develop portable skills that will allow you to tune a wide variety of database systems on a multitude of hardware and operating systems.

Further, these skills, combined with the scripts provided for validating results, are exactly what you need to evaluate competing database products and to choose the right one. Forward by Jim Gray, with invited chapters by Joe Celko and Alberto Lerner Includes industrial contributions by Bill McKenna (RedBrick/Informix), Hany Saleeb (Oracle), Tim Shetler (TimesTen), Judy Smith (Deutsche Bank), and Ron Yorita (IBM) Covers the entire system environment: hardware, operating system, transactions, indexes, queries, table design, and application analysis Contains experiments (scripts available on the author's site) to help you verify a system's effectiveness in your own environment Presents special topics, including data warehousing, Web support, main memory databases, specialized databases, and financial time series Describes performance-monitoring techniques that will help you recognize and troubleshoot problems

Database Management Systems provides comprehensive and up-to-date coverage of the fundamentals of database systems. Coherent explanations and practical examples have made this one of the leading texts in the field. The third edition continues in this tradition, enhancing it with more practical material. The new edition has been reorganized to allow more flexibility in the way the course is taught. Now, instructors can easily choose whether they would like to teach a course which emphasizes database application development or a course that emphasizes database systems issues. New overview chapters at the beginning of parts make it possible to skip other chapters in the part if you don't want the detail. More applications and examples have been added throughout the book, including SQL and Oracle examples. The applied flavor is further enhanced by the two new database applications chapters.

Database management is attracting wide interest in both academic and industrial contexts. New application areas such as CAD/CAM, geographic information systems, and multimedia are emerging. The needs of these application areas are far more complex than those of conventional business applications. The purpose of this book is to bring together a set of current research issues that addresses a broad spectrum of topics related to database systems and applications. The book is divided into four parts: - object-oriented databases, - temporal/historical database systems, - query processing in database systems, - heterogeneity, interoperability, open system architectures, multimedia database systems.

13th Asian Conference, ACIIDS 2021, Phuket, Thailand, April 7-10, 2021, Proceedings

Object Technologies for Advanced Software

Web Database Applications with PHP and MySQL

Relational Database Theory

Advanced Topics in Intelligent Information and Database Systems

Database Systems for Advanced Applications

This two volume set LNCS 5981 and LNCS 5982 constitutes the refereed proceedings of the 15th International Conference on Database Systems for Advanced Applications, DASFAA 2010, held in Tsukuba, Japan, in April 2010. The 39 revised full papers and 16 revised short papers presented together with 3 invited keynote papers, 22 demonstration papers, 6 industrial papers, and 2 keynote talks were carefully reviewed and selected from 285 submissions. The papers of the first volume are organized in topical sections on P2P-based technologies, data mining technologies, XML search and matching, graphs, spatial databases, XML technologies, time series and streams, advanced data mining, query processing, Web, sensor networks and communications, information management, as well as communities and Web graphs. The second volume contains contributions related to trajectories and moving objects, skyline queries, privacy and security, data streams, similarity search and event processing, storage and advanced topics, industrial, demo papers, and tutorials and panels.

Introductory, theory-practice balanced text teaching the fundamentals of databases to advanced undergraduates or graduate students in information systems or computer science.

This product is a complete reference to both classical material and advanced topics that are otherwise scattered in sometimes hard-to-find papers. A major effort in writing the book was made to highlight the intuitions behind the theoretical development.

This volume contains the proceedings of the Fifth International Conference on Database Systems for Advanced Applications (DASFAA '97). DASFAA '97 focused on advanced database technologies and their applications. The 55 papers in this volume cover a wide range of areas in the field of database systems and applications ? including the rapidly emerging areas of the Internet, multimedia, and document database systems ? and should be of great interest to all database system researchers and developers, and practitioners.

Principles, Experiments, and Troubleshooting Techniques

Main Memory Database Systems

Valuepack

Information and Knowledge Management

Relational Theory for Computer Professionals

Advanced Data Management

This book provides an authoritative overview of the global development of surgical paediatrics. Biographical accounts of key people who developed this relatively new specialty, many of whom are now household names, are presented. The compendium also acknowledges the enormous contribution of imaging (ultrasound/MRI and PET scans), minimal invasive surgery, and fetal surgery, as well as the role of related journals and associations, in the progress of surgical paediatrics.Many of the contributors have been instrumental to the development of surgical paediatrics in their respective countries, and have considerable worldwide influence on the management of children requiring surgical care. Through their valuable insight and first-hand experience, this book not only shines a light on the past achievements of previous generations of paediatric surgeons, but also serves as a model to encourage future generations to do likewise.

This work has been revised and updated to provide a comprehensive treatment of database design for commercial database products and their applications. The book covers the basic foundation of design as well as more advanced techniques, and also incorporates coverage of data warehousing and OLAP (On-Line Analytical Processing), data mining, object-relational, multimedia, and temporal/spatial design.

This book constitutes the refereed proceedings of the 9th International Conference on Database Systems for Advanced Applications, DASFAA 2004, held in Jeju Island, Korea in March 2004. The 60 revised full papers and 18 revised short papers presented together with 2 invited articles were carefully reviewed and seleted from 272 submissions. The papers are organized in topical sections on access methods, query processing in XML, security and integrity, query processing in temporal and spatial databases, semi-structured databases, knowledge discovery in temporal and spatial databases, XML and multimedia and knowledge discovery on the Web, query processing and optimization, classification and clustering, Web search, mobile databases, parallel and distributed databases, and multimedia databases.

Geographic Information Systems (GIS) have been experiencing a steady and unprecedented growth in terms of general interest, theory development, and new applications in the last decade or so. GIS is an inter-disciplinary field that brings together many diverse areas such as computer science, geography, cartography, engineering, and urban planning. Database Issues in Geographic Information Systems approaches several important topics in GIS from a database perspective. Database management has a central role to play in most computer-based information systems, and is expected to have an equally important role to play in managing information in GIS as well. Existing database technology, however, focuses on the alphanumeric data that are required in business applications. GIS, like many other application areas, requires the ability to handle spatial as well as alphanumeric data. This requires new innovations in data management, which is the central theme of this monograph. The monograph begins with an overview of different application areas and their data and functional requirements. Next it addresses the following topics in the context of GIS: representation and

manipulation of spatial data, data modeling, indexing, and query processing. Future research directions are outlined in each of the above topics. The last chapter discusses issues that are emerging as important areas of technological innovations in GIS. Database Issues in Geographic Information Systems is suitable as a secondary text for a graduate level course on Geographic Information Systems, Database Systems or Cartography, and as a reference for researchers and practitioners in industry.

Database Systems For Advanced Applications '91 - Proceedings Of The 2nd International Symposium On Database Systems For Advanced Applications

Database Modeling and Design

The Practical Guide to Storing, Managing and Analyzing Big and Small Data

15th International Conference, DASFAA 2010, Tsukuba, Japan, April 1-4, 2010, Proceedings

Proceedings of the Fifth International Conference on Database Systems for Advanced Applications, Melbourne, April 1-4, 1997

Database Systems For Advanced Applications '95 - Proceedings Of The Fourth International Conference

This edition combines clear explanations of database theory and design with up-to-date coverage of models and real systems. It features excellent examples and access to Addison Wesley's database Web site that includes further teaching, tutorials and many useful student resources.

The latest edition of a popular text and reference on database research, with substantial new material and revision; covers classical literature and recent hot topics. Lessons from database research have been applied in academic fields ranging from bioinformatics to next-generation Internet architecture and in industrial uses including Web-based e-commerce and search engines. The core ideas in the field have become increasingly influential. This text provides both students and professionals with a grounding in database research and a technical context for understanding recent innovations in the field. The readings included treat the most important issues in the database area--the basic material for any DBMS professional. This fourth edition has been substantially updated and revised, with 21 of the 48 papers new to the edition, four of them published for the first time. Many of the sections have been newly organized, and each section includes a new or substantially revised introduction that discusses the context, motivation, and controversies in a particular area, placing it in the broader perspective of database research. Two introductory articles, never before published, provide an organized, current introduction to basic knowledge of the field; one discusses the history of data models and query languages and the other offers an architectural overview of a database system. The remaining articles range from the classical literature on database research to treatments of current hot topics, including a paper on search engine architecture and a paper on application servers, both written expressly for this edition. The result is a collection of papers that are seminal and also accessible to a reader who has a basic familiarity with database systems.

The three-volume set LNCS 12681-12683 constitutes the proceedings of the 26th International Conference on Database Systems for Advanced Applications, DASFAA 2021, held in Taipei, Taiwan, in April 2021. The total of 156 papers presented in this three-volume set was carefully reviewed and selected from 490 submissions. The topic areas for the selected papers include information retrieval, search and recommendation techniques; RDF, knowledge graphs, semantic web, and knowledge management; and spatial, temporal, sequence, and streaming data management, while the dominant keywords are network, recommendation, graph, learning, and model. These topic areas and keywords shed the light on the direction where the research in DASFAA is moving towards. Due to the Corona pandemic this event was held virtually.

This volume contains the proceedings of the Fifth International Conference on Database Systems for Advanced Applications (DASFAA '97). DASFAA '97 focused on advanced database technologies and their applications. The 55 papers in this volume cover a wide range of areas in the field of database systems and applications - including the rapidly emerging areas of the Internet, multimedia, and document database systems - and should be of great interest to all database system researchers and developers, and practitioners.

The Complete Book

9th International Conference, DASFAA 2004, Jeju Island, Korea, March 17-19, 2003, Proceedings

Handbook on Data Management in Information Systems

Data on the Web

26th International Conference, DASFAA 2021, Taipei, Taiwan, April 11-14, 2021, Proceedings, Part III

Advanced Database Systems For Integration Of Media And User Environments '98: Advanced Database Research

The theme of this book is the potential of new advanced database systems. The volume presents the proceedings of the 10th British National Conference on Databases, held in Aberdeen, Scotland, in July 1992. The volume contains two invited papers, one on the promise of distributed computing and the challenges of legacy systems by M.L. Brodie, and the other on object-oriented requirements and project by D.J.L. Gradwell. The following four parts each contain three submitted papers selected from a total of 36 submissions. The parts are entitled: - Object-oriented databases - Parallel implementations and industrial systems - Non-relational data models - Logic programming and databases

This volume contains expanded and updated versions of papers presented at CIKM 92, the First International Conference on Information and Knowledge Management, held in Baltimore, Maryland, in November 1992. The conference participants came from the fields of database management, information retrieval, and artificial intelligence. A major theme in the volume is how these fields are merging. Theeight papers discuss: discovering context in a conceptual schema; a system for face information retrieval; queries in OODB systems; consistency checking in OODBs; integrity constraints representation in OODBs; a framework for temporal object databases; inductive dependencies and approximate databases; OODB design methodologies.

This book constitutes the refereed proceedings of the 10th International Conference on Database Systems for Advanced Applications, DASFAA 2005, held in Beijing, China in April 2005. The 67 revised full papers and 15 revised short papers presented were carefully reviewed and selected from 302 submissions. The papers are organized in topical sections on bioinformatics, water marking and encryption, XML coding and metadata management, data mining, data generation and understanding, music retrieval, query processing in subscription systems, extending XML, Web services, high-dimensional indexing, sensor and stream data processing, database performance, clustering and classification, data warehousing, data mining and Web data processing, moving object databases, temporal databases, sensor query patterns, join processing and view management, spatial databases, enhancing database services, recovery and correctness, and XML databases and indexing.

Data model. Queries. Types. Sysems. A syntax for data. XML. Query languages. Query languages for XML. Interpretation and advanced features. Typing semistructured data. Query processing. The lore system. Strudel. Database products supporting XML. Bibliography. Index. About the authors.

Database Systems for Advanced Applications '97

Foundations of Databases

First JSSST International Symposium, Kanazawa, Japan, November 4-6, 1993. Proceedings

Database Issues in Geographic Information Systems

For SQL, NoSQL, Cloud and Distributed Databases

What Relational Databases Are Really All About

Advanced data management has always been at the core of efficient database and information systems. Recent trends like big data and cloud computing have aggravated the need for sophisticated and flexible data storage and processing solutions. This book provides a comprehensive coverage of the principles of data management developed in the last decades with a focus on data structures and query languages. It treats a wealth of different data models and surveys the foundations of structuring, processing, storing and querying data according to these models. Starting off with the topic of database design, it further discusses weaknesses of the relational data model, and then proceeds to convey the basics of graph data, tree-structured XML data, key-value pairs and nested, semi-structured JSON data, columnar and record-oriented data as well as object-oriented data. The final chapters round the book off with an analysis of fragmentation, replication and consistency strategies for data management in distributed databases as well as recommendations for handling polyglot persistence in multi-model databases and multi-database architectures. While primarily geared towards students of Master-level courses in Computer Science and related areas, this book may also be of benefit to practitioners looking for a reference book on data modeling and query processing. It provides both theoretical depth and a concise treatment of open source technologies currently on the market.

This volume constitutes the proceedings of the First International Symposium organized by the Japan Society for Software Science and Technology. The symposium was held in Kanazawa, Japan, November 4-6, 1993 and attracted many researchers from academia and industry as well as ambitious practitioners. Object technologies, in particular object-oriented programming, object-oriented databases, and software object bases, currently attract much attention and hold a great promise of future research and development in diverse areas of advanced software. The volume contains besides 6 invited presentations by renown researchers and 25 contributed papers carefully selected by an international program committee from a total of 92 submissions.

Modern software systems are becoming more complex in many ways and have to cope with a growing number of abnormal situations which, in turn, are increasingly complex to handle. The most general way of dealing with these problems is by incorporating exception handling techniques in software design. In the past, various exception handling models and techniques have been proposed and many of them are part of practical languages and software composition technologies. This book is composed of five parts, which deal with topics related to exception handling in the context of programming language models, design methodologies, concurrent and distributed systems, applications and experiences, and large-scale systems such as database and workflow process mangagement systems. The 17 coherently written chapters by leading researchers competently address a wide range of issues in exception handling.

This book constitutes the refereed proceedings of the 13th Asian Conference on Intelligent Information and Database Systems, ACIIDS 2021, held in Phuket, Thailand, in April 2021. The 67 full papers accepted for publication in these proceedings were carefully reviewed and selected from 291 submissions. The papers of the first volume are organized in the following topical sections: data mining methods and applications; machine learning methods; decision support and control systems; natural language processing; cybersecurity intelligent methods; computer vision techniques; computational imaging and vision; advanced data mining techniques and applications; intelligent and contextual systems; commonsense knowledge, reasoning and programming in artificial intelligence; data modelling and processing for industry 4.0; innovations in intelligent systems. *The conference was held virtually.*

Introduction to Database Management System

Database Management Systems

Database Systems

Advanced Database Systems

Fundamentals of Database Systems

Database Tuning

This is the eBook of the printed book and may not include any media, website access codes, or print supplements that may come packaged with the bound book. Database Systems: The Complete Book is ideal for Database Systems and Database Design and Application courses offered at the junior, senior and graduate levels in Computer Science departments. A basic understanding of algebraic expressions and laws, logic, basic data structure, OOP concepts, and programming environments is implied. Written by well-known computer scientists, this introduction to database systems offers a comprehensive approach, focusing on database design, database use, and implementation of database applications and database management systems. The first half of the book provides in-depth coverage of databases from the point of view of the database designer, user, and application programmer. It covers the latest database standards SQL:1999, SQL/PSM, SQL/CLI, JDBC, ODL, and XML, with broader coverage of SQL than most other texts. The second half of the book provides in-depth coverage of databases from the point of view of the DBMS implementor. It focuses on storage structures, query processing, and transaction management. The book covers the main techniques in these areas with broader coverage of query optimization than most other texts, along with advanced topics including multidimensional and bitmap indexes, distributed transactions, and information integration techniques.