Association Rule Mining Concepts and Approaches

(A DATA STRUCTURES PERSPECTIVE)

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ASSOCIATION RUILE MINING CONCEPTS AND APPROACHES : A DATA STRUCTURES PERSPECTIVE

ISBN-13: 978-93-87610-58-3
FIRST EDITION, MARCH 2020, INDIA

Printed & Published by:
VSRD Academic Publishing
(*A Division of Visual Soft India Pvt. Ltd.*)

Printed & Bound in India

VSRD ACADEMIC PUBLISHING
A Division of Visual Soft India Pvt. Ltd.

REGISTERED OFFICE
154, Tezabmill Campus, Anwarganj, KANPUR – 208003 (UP) (IN)
Mb:98999 36803, Web: www.vsrdpublishing.com, Email: vsrdpublishing@gmail.com

MARKETING OFFICE
340, FF, Adarsh Nagar, Oshiwara, Andheri(W), MUMBAI – 400053 (MH)(IN)
Mb: 99561 27040, Web: www.vsrdpublishing.com, Email: vsrdpublishing@gmail.com

PREFACE

Association rulemining is attracting growing attention. The appeal is attributed not only to the prominence of its parent theme ' data discovery in databases and data mining,' but also to its tidy depiction and comprehensibility. The creation of the association rule on mining has been facilitated by an active discussion between user groups and researchers. We have all contributed to the development of a methodology with a fruitful exchange of ideas at relevant forums or conferences, including SIGMOD, SIGKDD, AAAI, IJCAI and VLDB. As a result, association rule mining has advanced to a mature stage, encouraging a variety of applications, such as data analysis and predictive decisions.

Significant progress has recently been made on mining in areas such as quantitative association rules, causal rules, exceptional rules, negative association rules, multi-database association rules and association rules in small databases. These will continue to be potential things of concern in relation to the association law on mining. Although the association rule is a significant trend within the databases, no specialized monograph has been published in this field to date. That is why this book focuses on these interesting topics.

The book is intended for researchers and students in the fields of data mining, data analysis, machine learning, information discovery in databases, and anyone else interested in association mining law. It is also suitable to be used as a text complement for wider courses that may also include information exploration in databases and data mining.

The book consists of seven chapters and bibliography. Chapters 1 and 2 lay a common foundation for the following material. This includes the preliminary work on data mining and the identification of association rules, as well as the necessary concepts, previous work and applications. Later chapters are essentially self-contained and can be read selectively and in any order. Chapters 3, 4 and 5 develop methods for evaluating interventions, data structures, including association rules and causal laws. Chapter 6 provides a performance analysis of the laws of association between the different data structures. Chapter 7 presents the applications of the Association Mining Rules.

Until selectively reading other chapters beginners will read chapters 1 and 2. While open issues are very critical, techniques in other chapters can support experienced readers who want to tackle these issues.

✍ *Authors*

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