

CALL FOR CHAPTERS

Recent Advancements in Multi-View Data Analytics

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In real-world problems, there is a visible shift in the realm of data analytics: more often we witness data originating from a number of sources, on a basis of which models are to be constructed. Data are generated by numerous locally available sensors distributed across some geographically distant areas. Data come from numerous local databases. All of them provide a valuable multi-view perspective at real-world phenomena. Each of these views provides an essential contribution to the overall understanding of the entire system under analysis. Quite commonly data might not be shared because of some existing technical or legal requirements. Because of the existing constraints, there arises a timely need for establishing innovative ways of data processing that can be jointly referred to as a multi-view data analytics. A multi-view character of problems is manifested in a variety of scenarios including clustering, consensus building in decision-processes, computer vision, knowledge representation, big data, data streaming, among others. Given the existing constraints, the aim is to analyze and design processes and algorithms of data analytics addressing the specificity of this class of problems and the inherent structure of the data. Given the diversity of perspectives encountered in the problem at hand, it becomes imperative to develop efficient and interpretable ways of assessing the performance of results produced by multi-view analytics.

The objective of the proposed volume is to provide the reader with a comprehensive and up-to-date treatise of the area of multi-view data analytics by focusing a spectrum of methodological and algorithmic issues, discussing implementations and case studies, identifying the best design practices, assessing business models and practices of the methodology of this data analytics as encountered nowadays in industry, health care, science, administration, and business.

Topics of interest include, but are not limited to, the following:

I. Multi-View Aspects of Data Analytics– An Overview

Conceptual and methodological platform for building, analyzing, and deploying multi-view architectures. Historical overview.

The concepts of sources of data and knowledge.

Terminology and existing taxonomy.

Performance measures.

II. The Principles and Methodology of Multi-View Algorithms

Main mechanisms: Emergence and a historical perspective.

Main problems and their formulations.

Representative studies. Analysis of case studies.

Technical challenges.

III. Multi-View Clustering and Multi-View Models

Key methodologies and algorithms.
Clustering and clustering with collections of data.
Analysis and reconciliation of clustering results.
Mechanisms of collaboration.
Federated learning.
Performance and scalability analysis.

IV. Uncertainty and Information Granularity in Multi-View Data Analytics

Quality and diversity of data sources.
Conflicting views and consensus building processes.
Granular quantification of results.

V. Case Studies and Applications

A collection of selected case studies reported in various areas of engineering, health, business, and science, in particular transportation, healthcare, finance, military, and legal.

Submission Procedure

Potential authors are invited to submit a brief **one-page summary (including the affiliations, the names and the E-mail addresses of the authors)** of the proposed chapter clearly identifying the main objectives of their research before **May 20, 2021**. Authors of the accepted proposals will be notified and provided with detailed guidelines. **Full chapters** are to be submitted by **July 1, 2021**. All manuscripts will be thoroughly reviewed. **All corresponding authors will receive an email from Springer explaining how to access the ebook.**

The proposals and manuscripts are to be submitted electronically to both editors (wpedrycz@ualberta.ca and smchen@mail.ntust.edu.tw).

Important Dates

Brief Proposal Submission	May 20, 2021
Notification of Acceptance	May 31, 2021
Full Chapter Submission	July 1, 2021
Review Results Returned	August 15, 2021
Final Chapter Submission	October 1, 2021