

## Fuzzy System in Data mining and Knowledge Discovery: Modeling and Application

Over the last fifty years fuzzy systems have found numerous successful applications in diverse fields including control, robotics, intelligent systems, medical and satellite image analysis, consumer electronics and the list goes on. Fuzzy systems have also strongly influenced research and development in other areas of computational intelligence leading to many hybrid systems. Fuzzy systems have opened up new horizons in thinking, research and development and it will certainly guide us into another half century of progress. The fuzzy system is actually one kind of the approximation of nonlinear systems, which has basically formed some systematic but not unified theory (Mamdani fuzzy logic system, Takagi–Sugeno (T–S) fuzzy systems and type-2 fuzzy sets based, up to now). Fuzzy System and Knowledge Discovery is an interdisciplinary area focusing upon methodologies for extracting useful knowledge from data. Specific topics include fuzzy sets, rough sets, statistical methods, parallel/distributed data mining, Knowledge Discovery in Database(KDD) process and human interaction, knowledge management, knowledge visualization, reliability and robustness, knowledge discovery in specific domains, high dimensional data, software warehouse and software mining, data engineering, etc.

The objective of this special issue is to explore latest modeling, analysis and fuzzy systems and Knowledge Discovery. It offers a concentrative venue for researchers to make rapid exchange of ideas and original research findings in fuzzy systems and Knowledge Discovery. In particular, new interdisciplinary approaches in fuzzy theory and engineering applications, or strong conceptual foundation in newly evolving topics are especially welcomed. We invite researchers and experts worldwide to submit high-quality original research papers and critical survey articles on the following potential topics and their applications, but are not limited to:

- Fuzzy data analysis, clustering and classification
- Fuzzy pattern recognition and diagnostics
- Fuzzy identification and fault detection
- Fuzzy systems design and optimization
- Fuzzy logic and its applications in industrial engineering
- Soft computing and granular computation
- Knowledge management
- Machine learning and artificial intelligence
- High-dimensional data mining
- Pattern recognition and diagnostics
- Applications related to the above topics

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