

Computational Methods for Decision Making

Brief review to mathematical and statistical methods for data analysis and processing
- Decision making based on mathematical logic and logic programming principles (propositional and predicate logic, Herbrand theorem, resolution principle) – Intelligent techniques and decision making (fuzzy logic, neural networks, genetic algorithms) – data mining techniques – inductive decision trees – other intelligent algorithmic approaches for computer assisted decision making – hybrid and adaptive intelligent systems for decision making – nature inspired intelligence – real world applications.

Literature

Vlahavas V. et. al Artificial Intelligence, Thessaloniki, 2002, (in Greek).
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Dunham, M., 2006, *Data Mining*
Bunn D., *Applied Decision Analysis*, McGraw-Hill, 1984.
Z. Chen, *Computational Intelligence for Decision Support*, CRC Press, 2000
L.N. De Castro, F.J. Von Zuben, *Recent Developments in Biologically Inspired Computing*, IDEA Group, 2005
G. Dounias, 2010, *Decision Analysis and Knowledge Engineering*, to be published 2010-11, Pyxida Publications, (in Greek)