

## References

1. Aftarczuk K, Kozierekiewicz A, Nguyen NT (2006) Using representation choice methods for a medical diagnosis problem. In: *Proc. of KES 2006*, Lecture Notes in Artificial Intelligence 4253, New York: Springer, pp. 805–812.
2. Aizerman MA (1985) New problems in the general choice theory. *Social Choice Welfare* 2: 235–382.
3. Amgoud L, Cayrol C (2002) Inferring from inconsistency in preference-based argumentation frameworks. *Journal of Automated Reasoning* 29: 125–169.
4. Arieli O (2003) Reasoning with different levels of uncertainty. *Journal of Applied Non-Classical Logics* 13: 317–343.
5. Arieli O, Avron A (1999) A model-theoretic approach for recovering consistent data from inconsistent knowledge bases. *Journal of Automatic Reasoning* 2: 253–309.
6. Arrow KJ (1963) *Social Choice and Individual Values*. New York: Wiley.
7. Avron A, Lev I (2005) Non-deterministic multiple-valued structures. *Journal of Logic and Computation* 15: 241–261.
8. Badache N, Hurfin M, Madeco R (1999) Solving the consensus problem in a mobile environment. In: *Proc. of IEEE International Performance, Computing and Communications Conference*. Piscataway NJ: IEEE, pp. 29–35.
9. Baeza YR, Ribeiro NB (1999) *Modern Information Retrieval*. New York: ACM Press.
10. Balabanovic M (1997) An adaptive web page recommendation service. In: *Proc. of 1<sup>st</sup> International Conference on Autonomous Agents*. New York: ACM Press, pp. 378–385.
11. Balzer R (1991) Tolerating inconsistency. In: *Proc. of the 13<sup>th</sup> International Conference on Software Engineering*. Washington, DC: IEEE Press, pp. 158–165.
12. Barthélemy JP, Guenoche A, Hudry O (1989) Median linear orders: Heuristics and a branch and bound algorithm. *European Journal of Operational Research* 42: 313–325.
13. Barthélemy JP, Janowitz MF (1991) A formal theory of consensus. *SIAM Journal of Discrete Mathematics* 4: 305–322.

14. Barthelemy JP, Leclerc B (1995) The median procedure for partitions. *DIMACS Series in Discrete Mathematics and Theoretical Computer Science* 19: 3–33.
15. Bazzi RA, Neiger G, Peterson GL (1997) On the use of registers in achieving wait-free consensus. *Distributed Computing* 10: 117–127.
16. Benferhat S, Dubois D, Prade H (1997) Some syntactic approaches to the handling of inconsistent knowledge bases: A comparative study. Part 1: The flat case. *Studia Logica* 58: 17–45.
17. Benferhat S, Garcia L (2002) Handling locally stratified inconsistent knowledge bases. *Studia Logica* 70: 77–104.
18. Birnbaum E, Lozinskii EL (2003) Consistent subsets of inconsistent systems: structure and behaviour. *Journal of Exp. Theory Artificial Intelligence*: 15, 25–46.
19. Bock HH, Day WHE, McMorris FR (1998) Consensus rules for committee elections. *Mathematical Social Sciences* 37: 219–232.
20. Bogart KP (1973) Preference structure I: Distance between transitive preference relations. *Journal of Math Sociology* 3: 455–470.
21. Bordogna G, Pasi G (2004) A model for a SOft Fusion of Information Accesses on the web. *Fuzzy Sets and Systems* 48: 105–118.
22. Bremer M (2005) *An Introduction to Paraconsistent Logics*. New York: Peter Lang.
23. Brown FN (1991) *Boolean Reasoning*. Hingham, MA: Kluwer Academic.
24. Brusilovsky P (1996) Methods and techniques of adaptive hypermedia. *User Modelling and User-Adapted Interaction* 6: 87–129.
25. Carver CA, Howard RA, Lavelle E (1996) Enhancing student learning by incorporating learning styles into adaptive hypermedia. In: *Proc. of Conf. on Educational Multimedia and Hypermedia*, Boston 1996, pp. 118–123.
26. Chen L, Sycara K (1998) Webmate – Personal agent for browsing and searching. In: *Proc. of the 2nd International Conference on Autonomous Agents*, St Paul. ACM Press, New York, pp. 132–139.
27. Coulouris G, Dollimore J, Kindberg T (2001) *Distributed Systems, Concepts and Design*. Reading, MA: Addison-Wesley.
28. Crow L, Shadbolt N (2001) Extracting focused knowledge from the semantic web. *International Journal of Human-Computer Studies* 54: 155–184.
29. Daniłowicz C, Nguyen HC (2002) Using user profiles in intelligent information retrieval. In: *Proc. of ISMIS'2002*, Lecture Notes in Computer Science 2366, New York: Springer, pp. 223–222.
30. Daniłowicz C, Nguyen HC, Nguyen NT (2003) Model of user profiles and personalization for web-based information retrieval systems. In: Abramowicz W (Ed.) *Knowledge Based Information Retrieval and Filtering from Internet*. Hingham, MA: Kluwer Academic, pp. 121–136.
31. Daniłowicz C, Nguyen NT (1988) Consensus-based partition in the space of ordered partitions. *Pattern Recognition* 21: 269–273.

32. Daniłowicz C, Nguyen NT (2003) Consensus methods for solving inconsistency of replicated data in distributed systems. *Distributed and Parallel Databases – An International Journal* 14: 53–69.
33. Date CJ (2004) *An Introduction to Database Systems*. Reading, MA: Addison-Wesley.
34. Day WHE (1981) The complexity of computing metric distances between partitions. *Mathematical Social Science* 1: 269–287.
35. Day WHE (1988) Consensus methods as tools for data analysis. In: Bock HH (Ed.), *Classification and Related Methods of Data Analysis, Proc. of IFC'87*. North-Holland, pp. 317–324.
36. De Kleer J (1986) An assumption-based TMS. *Artificial Intelligence* 28: 127–162.
37. Doyle J (1979) A truth maintenance system. *Artificial Intelligence* 12: 231–272.
38. Dunn R, Dunn K (1999) *The Complete Guide to the Learning Strategies in Service System*. Boston: Allyn & Bacon.
39. Ephrati E, Rosenschein JS (1998) Deriving consensus in multi-agent systems. *Artificial Intelligence* 87: 21–74.
40. Fehrer D (1993) A unifying framework for reason maintenance. In: Clark M et al (Eds.) *Symbolic and Qualitative Approaches to Reasoning and Uncertainty*, Lecture Notes in Computer Science 747, New York: Springer, pp. 113–120.
41. Felder R (1993) Reaching the second tier learning and teaching styles in college science education. *Journal of College Science Teaching* 23: 286–290.
42. Felder RM, Silverman LK (1988) Learning and teaching styles in engineering education. *Engineering Education* 78: 674–681.
43. Fensel D (2001) *Ontologies: Silver Bullet for Knowledge Management and Electronic Commerce*. New York: Springer-Verlag.
44. Ferber J (1999) *Multi-Agent Systems*. New York: Addison-Wesley.
45. Fernandez-Breis JT, Martinez-Bejar R (2002) A cooperative framework for integrating ontologies. *International Journal of Human-Computer Studies* 56: 665–720.
46. Fishburn PC (1977) Condorcet social choice functions. *SIAM Journal of Applied Mathematics* 33: 469–489.
47. Gardenfors P (1988) *Knowledge in Flux*. Cambridge, MA: MIT Press.
48. Gardner SP (2005) Ontologies and semantic data integration. *Drug Discovery Today* 14: 1001–1007.
49. Glover E, Lawrence S (1999) Architecture of a meta search engine that supports user information needs. In: *Proc. of the 8<sup>th</sup> International Conference on Information and Knowledge Management*. ACM Press, New York, pp. 210–216.
50. Grant J, Subrahmanian VS (1995) Reasoning in inconsistent knowledge bases. *IEEE Transactions on Knowledge and Data Engineering* 7: 177–189.

51. Gruber TR (1993) *A Translation Approach to Portable Ontology Specifications*. Knowledge System Laboratory. Academic Press Stanford University.
52. Guo P, Zeng DZ, Shishido H (2002) Group decision with inconsistent knowledge. *IEEE Transactions on Systems, Man and Cybernetics, Part A*, 32: 670–679.
53. Hameed A, Sleeman D., Preece A (2002) Detecting mismatches among experts' ontologies acquired through knowledge elicitation. *Knowledge-Based Systems* 15: 265–273.
54. Helpert JY, Moses Y (2001) Knowledge and common knowledge in distributed environment. *Journal of the Association for Computing Machinery* 37: 549–587.
55. Hernes M, Nguyen NT (2004) Deriving consensus for incomplete ordered partitions. In: Nguyen NT (Ed.) *Intelligent Technologies for Inconsistent Knowledge Processing*. Advanced Knowledge International, Adelaide, Australia, pp. 39–56.
56. Herrmann N (1988) *The Creative Brain*. Lake Lure, NC: Brain Books.
57. Holt J (2001) *UML (Unified Modelling Language) for Systems Engineers*. Institution of Electrical Engineers.
58. Hunter A (1998) Paraconsistent logics. In: Gabbay D, Smets P (Eds) *Handbook of Defeasible Reasoning and Uncertain Information*. Kluwer Academic Publishers, pp. 13–43.
59. Hunter A (2003) Evaluating the significance of inconsistencies. In: *Proc. of the International Joint Conference on AI (IJCAI'03)* San Mateo, CA: Morgan Kaufmann, pp. 468–473.
60. Jøsang A, Grandison T (2003) Conditional inference in subjective logic. In: Wang X. (Ed.) *Proc. of the 6<sup>th</sup> International Conference on Information Fusion*, 2003, pp. 279–311.
61. Juszczyszyn K, Nguyen NT, Kołaczek G et al. (2006) Agent-based approach for distributed intrusion detection system design. In: *Proc. of ICCS 2006*, Lecture Notes in Computer Science 3993, New York: Springer, pp. 208–215.
62. Kanungo T et al. (2002) An efficient k-means clustering algorithm: Analysis and implementation. *IEEE Transactions on Pattern Analysis and Machine Intelligence* 24: 881–892.
63. Katarzyniak RP, Nguyen NT (2000) Reconciling inconsistent profiles of agents' knowledge states in distributed multi-agent systems using consensus methods. *System Science* 26: 93–119.
64. Katarzyniak RP, Nguyen NT (2002) Modification of weights of conflict profile's elements and dependencies of attributes in consensus model. In: *Proc. of RSCTC 2002*, Lecture Notes in Artificial Intelligence 2475, New York: Springer, pp. 131–138.
65. Katarzyniak RP, Nguyen NT (2002) Solving conflicts of agent knowledge states in multi-agent systems. In: *Proc. of SOFSEM 2002*, Lecture Notes in Artificial Intelligence 2540, New York: Springer, pp. 231–239.

66. Kelly B, Tangney B (2002) Incorporating learning characteristics into an intelligent tutor. In: *Proc. of ITS 2002*, Lecture Notes in Computer Science 2363, New York: Springer, pp. 729–738.
67. Kiewra M, Nguyen NT (2005) Non-textual document ranking using crawler information and web usage mining. In: *Proc. of KES 2005*, Lecture Notes in Artificial Intelligence 3682, New York: Springer, pp. 520–526.
68. Kemeny JG (1959) Mathematics without numbers. *Daedalus* 88: 577–591.
69. Kifer M, Lozinskii EL (1992) A logic for reasoning with inconsistency. *Journal of Automatic Reasoning* 9: 179–215.
70. Knight K (2002) Measuring inconsistency. *Journal of Philosophical Logic* 31: 77–98.
71. Kobsa A, Koenemann J, Pohl W (2001) Personalized hypermedia presentation techniques for improving online customer relationships. *Knowledge Engineering Review* 16: 111–155.
72. Kołaczek G, Pieczynska A, Juszczyszyn K, Grzech A, Katarzyniak RP, Nguyen NT (2005) A mobile agent approach to intrusion detection in network systems. In: *Proc. of KES 2005*, Lecture Notes in Artificial Intelligence 3682, New York: Springer, pp. 514–519.
73. Kolb DA (1984) *Experimental Learning: Experience as a Source of Learning and Development*. Englewood Cliffs, NJ: Prentice-Hall.
74. Kukla E (2002) Outline of tutoring strategy construction method for multimedia intelligent tutoring systems. In: *Proc of Multimedia and Web-based Systems Conference – MISSI'2002, Wrocław*, pp. 297–308 (in Polish).
75. Kukla E, Nguyen NT, Sobecki J et al. (2003) A model conception for learner profile construction and determination of optimal scenario in intelligent learning systems In: *Proc. of KES'2003 Oxford UK*, Lecture Notes in Artificial Intelligence 2774, New York: Springer, pp. 1216–1222.
76. Kukla E, Nguyen NT, Sobecki J et al. (2004) Determination of learning scenarios in intelligent web-based learning environment. In: *Proc. of IEA-AIE 2004*, Lecture Notes in Artificial Intelligence 3029, New York: Springer, pp. 759–768.
77. Kukla E, Nguyen NT, Sobecki J et al. (2004) A model conception for learner profile construction and determination of optimal scenario in intelligent learning systems. *International Journal of Interactive Technology and Smart Education* 1: 171–184.
78. Lieberman H (1995) Letizia: An agent that assists web browsing. In: *Proc. of International Joint Conference on Artificial Intelligence*. San Mateo, CA: Morgan Kaufmann, pp. 924–929.
79. Lipski W (1979) On semantic issues connected with incomplete information databases. *ACM Transactions on Database Systems* 4: 262–269.
80. Lipski W, Marek W (1986) *Combinatorial Analysis*. Warsaw: WTN (in Polish).

81. Loyer Y, Spyratos N, Stamate D (2000) *Hypothesis Support for Information Integration in Four-Valued Logics*. Lecture Notes in Computer Science, vol. 1872, New York: Springer, pp. 536–548.
82. Loyer Y, Spyratos N, Stamate D (2000) Integration of information in four-valued logics under non-uniform assumption. In: *Proc. of 30<sup>th</sup> IEEE International Symposium on Multiple-Valued Logic*, pp. 180–193.
83. Małowiecki M, Nguyen NT (2004) Consistency measures and consensus susceptibility for conflict profiles. In: *Proc. of 15<sup>th</sup> International Conference on System Science*. Wroclaw Univ. Tech Press, pp. 173–180.
84. Małowiecki M, Nguyen NT (2004) Consistency functions for reconciling knowledge inconsistency. In: Nguyen NT (Ed.) *Intelligent Technologies for Inconsistent Knowledge Processing*. Advanced Knowledge International, Adelaide, Australia, pp. 73–92.
85. Małowiecki M, Nguyen NT, Zgrzywa M (2004) Using consistency measures and attribute dependencies for solving conflicts in adaptive systems. In: *Proc. of ICCS 2004*, Lecture Notes in Computer Science 3038, New York: Springer, pp. 537–545.
86. Marcelloni F, Aksit M (2001) Leaving inconsistency using fuzzy logic. *Information and Software Technology* 43: 725–741.
87. McElligot M, Sorensen H (1994) An evolutionary connectionist approach to personal information filtering. In: *Proceeding of the Fourth Irish Neural Network Conference*, Dublin, Ireland, pp. 141–146.
88. McMorris FR, Mulder HM, Powers RC (2000) The median function on median graphs and semilattices. *Discrete Applied Mathematics* 101: 221–230.
89. McMorris FR, Powers RC (1995) The median procedure in a formal theory of consensus. *SIAM Journal of Discrete Mathematics* 14: 507–516.
90. McMorris FR, Powers RC (1997) The median function on weak hierarchies. *DIMACS Series in Discrete Mathematics and Theoretical Computer Science* 37: 265–269.
91. Menczer F (2003) Complementing search engines with online web mining agents. *Decision Support Systems* 35: 195–212.
92. Montaner M, Lopez B, De La Rosa JL (2003) A taxonomy for recommender agents on the Internet. *Artificial Intelligence Review* 19: 285–330.
93. Murray K, Porter B (1990) Developing a tool for knowledge integration: Initial results. *International Journal of Man-Machine Studies* 33: 373–383.
94. Musial K, Nguyen NT (1989) On the nearest product of partitions. *Bulletin of Polish Academy of Sciences* 36: 333–338.
95. Naqvi S, Rossi F (1990) Reasoning in inconsistent databases. In: *Logic Programming, Proc. of the North American Conference*. Cambridge, MA: MIT Press, pp. 255–272.
96. Newman WM, Lamming MG (1996) *Interactive System Design*. Harlow, UK: Addison-Wesley.

97. Ng KC, Abramson B (1990) Uncertainty management in expert systems. *IEEE Expert: Intelligent Systems and Their Applications* 5: 29–48.
98. Nguyen NT (2000) Using consensus methods for determining the representation of expert information in distributed systems. In: Cerri S (Ed.) *Proc. of AIMS'A'2000*, Lecture Notes on Artificial Intelligence 1904, New York: Springer, pp. 11–20.
99. Nguyen NT (2000) Using consensus methods for solving conflicts of data in distributed systems. In: Bartosek M (Ed.) *Proc. of 27<sup>th</sup> SOFSEM*, Lecture Notes in Computer Science 1963, New York: Springer, pp. 409–417.
100. Nguyen NT (2001) Representation choice methods as the tool for solving uncertainty in distributed temporal database systems with indeterminate valid time. In: *Proc. of IEA-AIE 2001*, Lecture Notes in Artificial Intelligence 2070, New York: Springer, pp. 445–454.
101. Nguyen NT (2001) Using consensus for solving conflict situations in fault-tolerant distributed systems. In: *Proc. of First IEEE/ACM Symposium on Cluster Computing and the Grid 2001*. IEEE Computer Press, pp. 379–385.
102. Nguyen NT (2001) Consensus-based timestamps in distributed temporal databases. *The Computer Journal* 44: 398–409.
103. Nguyen NT (2001) Using distance functions to solve representation choice problems. *Fundamenta Informaticae* 48: 2001.
104. Nguyen NT (2002) *Methods for Consensus Choice and their Applications in Conflict Resolving in Distributed Systems*. Wroclaw University of Technology Press (in Polish).
105. Nguyen NT (2002) Consensus system for solving conflicts in distributed systems. *Journal of Information Sciences* 147: 91–122.
106. Nguyen NT (2003) Criteria for consensus susceptibility in conflicts resolving. In: Inuiguchi M, Tsumoto S, Hirano S (Eds.) *Rough Set Theory and Granular Computing. Series Studies in Fuzziness and Soft Computing* vol. 125. New York: Springer-Verlag, pp. 323–333.
107. Nguyen NT (2004) Consensus methodology for inconsistent knowledge processing. In: Nguyen NT (Ed.) *Intelligent Technologies for Inconsistent Knowledge Processing*. Advanced Knowledge International, Adelaide, Australia, pp. 3–20.
108. Nguyen NT (2005) Processing inconsistency of knowledge on semantic level. *Journal of Universal Computer Science* 11: 285–302.
109. Nguyen NT (2005) Modal time and processing its inconsistency in temporal data collections. In: Katarzyniak RP (Ed.) *Ontologies and Soft Methods in Knowledge Management*. Advanced Knowledge International, Adelaide, Australia, pp. 101–119.
110. Nguyen NT (2006) Methods for achieving susceptibility to consensus for conflict profiles. *Journal of Intelligent & Fuzzy Systems* 17: 219–229.
111. Nguyen NT (2006) Conflicts of ontologies – classification and consensus-based methods for resolving. In: Gabrys B, Howllet RJ, Jain LC (Eds.) *Proc.*

- of *KES 2006*, Lecture Notes in Artificial Intelligence 4252, New York: Springer, pp. 267–274.
112. Nguyen NT (2006) Using consensus methodology in processing inconsistency of knowledge. In: Last M et al (Eds.) *Advances in Web Intelligence and Data Mining*. New York: Springer-Verlag, pp. 161–170.
  113. Nguyen NT, Blazowski A, Malowiecki M (2005) A multi-agent system aiding information retrieval in Internet using consensus methods. In: *Proc. of SOFSEM 2005*, Lecture Notes in Computer Science 3381, New York: Springer, pp. 399–403.
  114. Nguyen NT, Daniłowicz C (2003) Deriving consensus for conflict data in web-based systems. In: *Proc. of IEA-AIE 2003*, Lecture Notes in Artificial Intelligence 2718, New York: Springer, pp. 254–263.
  115. Nguyen NT, Daniłowicz C (2004) Methods for reducing the number of representatives in representation choice tasks. In: *Proc. of IEA-AIE 2004*, Lecture Notes in Artificial Intelligence 3029, New York: Springer, pp. 154–163.
  116. Nguyen NT, Gandza M, Paprzycki M (2006) A consensus-based multi-agent approach for information retrieval in Internet. In: *Proc. of ICCS 2006*, Lecture Notes in Computer Science 3993, New York: Springer, pp. 224–231.
  117. Nguyen NT, Katarzyniak RP (Eds.) (2006) Multi-agent Systems, Ontologies and Conflict Resolution. Special Issue in *Journal of Intelligent & Fuzzy Systems* 17(3).
  118. Nguyen NT, Małowiecki M (2004) Consistency function for conflict profiles. *LNCS Transactions on Rough Sets* 1: 169–186.
  119. Nguyen NT, Małowiecki M (2004) Deriving consensus for conflict situations with respect to its susceptibility. In: *Proc. of KES 2004*, Wellington New Zealand, Lecture Notes in Artificial Intelligence 3214, New York: Springer, pp. 1179–1186.
  120. Nguyen NT, Małowiecki M (2005) Using consensus susceptibility and consistency measures for inconsistent knowledge management. In: *Proc. of PAKDD'05*, Lecture Notes in Artificial Intelligence 3518, New York: Springer, pp. 545–554.
  121. Nguyen NT, Rusin M (2006) A consensus-based approach for ontology integration. In: Butz C, Nguyen NT, Takama Y et al. (Eds.) *Proc. of WI/IAT'06 Workshops*. Piscataway, NJ: IEEE Computer Society, pp. 514–517.
  122. Nguyen NT, Sobecki J (2001) Designing intelligent user interfaces using consensus-based methods for user profile determination. In: J. Zendulka (Ed.), *Proc. of Int. Conference on Information System Modelling. Acta MOSIS*, pp. 139–146.
  123. Nguyen NT, Sobecki J (2003) Consensus versus conflicts – methodology and applications. In: *Proc. of RSFDGrC 2003*, Lecture Notes in Artificial Intelligence 2639, New York: Springer, pp. 565–572.
  124. Nguyen NT, Sobecki J (2003) Using consensus methods to construct adaptive interfaces in multimodal web-based systems. *Journal of Universal Access in the Information Society* 2: 342–358.



125. Nguyen NT, Sobecki J (2005) Rough classification used for learning scenario determination in intelligent learning systems. In: Kłopotek M et al. (Eds.) *Intelligent Information Processing and Web Mining. Series Advances in Soft Computing*. New York: Physica-Verlag, pp. 107–116.
126. Nguyen NT, Sobecki J (2006) Determination of user interfaces in adaptive systems using a rough classification based method. *Journal of New Generation Computing* 24: 377–402.
127. Nguyen NT, Śliwko L (2006) Applications of multi-agent systems for information retrieval in Internet. In: Grzech A (Ed.) *Proc. of IWSE 2006*. Wrocław University of Technology Press, pp. 155–164 (in Polish).
128. Nieger G (1995) Simplifying the design of knowledge-based algorithms using knowledge consistency. *Information & Computation* 119: 283–293.
129. Nilsson U, Maluszynski J (2000) *Logic, Programming and Prolog*. John Wiley & Sons.
130. Noy NF, Musen MA (1999) SMART: Automated support for ontology merging and alignment. In *Proc. of the 12<sup>th</sup> Workshop on Knowledge Acquisition, Modelling and Management (KAW'99)*, Banff, Canada, October 1999, pp. 1–20.
131. Papanikolaou AK et al. (2001) INSPIRE: An intelligent system for personalized instruction in a remote environment. In: Reich S et al. (Eds.) *Proc. of Int. Workshops OHS-7, SC-3, AH-3, Lecture Notes in Computer Science* 2266, New York: Springer, pp. 215–225.
132. Pawlak Z (1991) *Rough Sets - Theoretical Aspects of Reasoning about Data*. Hingham, MA: Kluwer Academic.
133. Pawlak Z (1998) An inquiry into anatomy of conflicts. *Journal of Information Sciences* 108: 65–78.
134. Pawlak Z (1999) Rough classification. *International Journal of Human-Computer Studies* 51: 369–383.
135. Pazzani M, Billsus D (1997) Learning and revising user profile: The identification of interesting web sites. *Machine Learning* 27: 313–331.
136. Pinto HS, Martins JP (2001) A methodology for ontology integration. In: *Proc. of the First International Conference on Knowledge Capture*. New York: ACM Press, pp. 131–138.
137. Pinto HS, Perez AG, Martins JP (1999) Some issues on ontology integration. In: Benjamins VR (Ed.) *Proc. of IJCAI99's Workshop on Ontologies and Problem Solving Methods*, vol. 18. CEUR Publications, pp. 7.1–7.11.
138. Rashid AM et al. (2002) Getting to know you: Learning new user preferences in recommender systems. In: *Proc. of International Conference on Intelligent User Interfaces 2002*, San Francisco, CA, pp. 127–134.
139. Reimer U (1998) Knowledge integration for building organizational memories. In *Proc. of the 11<sup>th</sup> Banff Knowledge Acquisition for Knowledge Based Systems Workshop*, vol. 12, pp. KM-61 – KM-620.

140. Roos N (1992) A logic for reasoning with inconsistent knowledge. *Artificial Intelligence* 57: 69–103.
141. Salton G (1989) *Automatic Text Processing The Transformation, Analysis, and Retrieval of Information by Computer*. Reading, MA: Addison-Wesley.
142. Shermer M (2004) *The Science of Good and Evil*. New York: Henry Holt.
143. Simon J et al. (2006) Formal ontology for natural language processing and the integration of biomedical databases. *International Journal of Medical Informatics* 75: 224–231.
144. Skowron A, Deja R (2002) On some conflict models and conflict resolution. *Romanian Journal of Information Science and Technology* 5: 69–82.
145. Skowron A, Rauszer C (1992) The discernibility matrices and functions in information systems. In: Słowiński E (Ed.) *Intelligent Decision Support, Handbook of Applications and Advances of the Rough Sets Theory*. Dordrecht: Kluwer Academic, pp. 331–362.
146. Sobecki J, Nguyen NT (2002) Using consensus methods to user classification in interactive systems. In: Grzegorzewski P et al. (Eds.) *Soft Methods in Probability, Statistics and Data*. New York: Physica-Verlag, pp. 346–354.
147. Sobecki J, Nguyen NT (2003) Consensus-based adaptive interface construction for multiplatform web applications. In: *Proc. of IDEAL '2003*, Lecture Notes in Computer Science 2690, New York: Springer, pp. 465–472.
148. Sobecki J, Nguyen NT, Małowiecki M (2004) Adaptive user interfaces modeling by means of rough classification methods and consistency measures. In: *Proc. of 1<sup>st</sup> International Workshop on Advanced Technologies for E-Learning and E-Science, 2004*. Piscataway, NJ, IEEE Computer Society Press, pp. 16–22.
149. Stadnyk I, Kass R (1992) Modeling users' interests in information filters. *Communications of the ACM* 35: 49–50.
150. Surowiecki J (2004) *The Wisdom of Crowds*. New York: Random House.
151. Śliwko L (2005) Applications of multi-agent systems in information retrieval in Internet. M.Sc. Thesis (Advisor: Ngoc Thanh Nguyen). Wrocław University of Technology.
152. Śliwko L, Nguyen NT (2007) Using multi-agent systems and consensus methods for information retrieval in Internet. *International Journal of Intelligent Information and Database Systems* to appear in Vol. 1, issue 2.
153. Tessier C, Chaudron L, Müller HJ (2001) *Conflicting Agents: Conflict Management in Multiagent Systems*. Hingham, MA: Kluwer Academic.
154. Triantafillou E, Pomportsis A, Georiadou E (2002) AES-CS: Adaptive educational system based on cognitive styles. In: *Proc. of AH2002 Workshop, Second International Conference on Adaptive Hypermedia and Adaptive Web-Based Systems*. University of Malaga, Spain.
155. Wang JTL, Zhang K (2000) Identifying consensus of trees through alignment. *Journal of Information Sciences* 126: 165–189.

- 
156. Yan KO, Wang SC, Chin YH (1999) Consensus under unreliable transmission. *Information Processing Letters* 69: 243–248.
  157. Young HP (1974) An axiomatization of Borda's rule. *Journal of Economic Theory* 9: 43–52.
  158. Young HP (1995) Optimal voting rules. *Journal of Economic Perspectives* 9: 51–64.
  159. Young HP, Levenglick A (1978) A consistent extension of Condorcet's election principle. *SIAM Journal of Applied Mathematics* 35: 285–300.
  160. Zadeh L (1965) Fuzzy sets. *Information and Control* 8: 338–353.
  161. Zgrzywa M, Nguyen NT (2004), Determining consensus with simple dependencies of attributes. In: Nguyen NT (Ed.) *Intelligent Technologies for Inconsistent Knowledge Processing*. Adelaide, Australia: Advanced Knowledge International, pp. 57–72.
  162. Zgrzywa M, Nguyen NT (2005) Estimating and calculating consensus with simple dependencies of attributes. In: Kurzyński M et al (Eds.) *Computer recognition systems*. New York: Physica-Verlag, pp. 320–329.
  163. Zywno MS, Waalen JK (2002) The effect of individual learning styles on student outcomes in technology-enabled education. *Global Journal of Engineering. Education* 6: 35–43.

# Index

- agent 4, 9, 10, 14, 123, 312, 327
  - information 310
  - managing 15, 311, 312
  - monitoring 15
  - searching 309, 311, 326
- algorithm 3, 9, 87, 103, 120, 262
- axiom 50, 242, 262, 340
- best search engine 311, 314, 322
- centralization aspect 3, 8, 47, 126
- centroid 41, 291, 316, 327
- classification 9, 341, 264, 279, 289
  - learner 265, 290, 296
  - rough 9, 263, 292, 306
- clause 146, 150, 186, 192, 216
  - complete 148, 53, 158
  - inconsistent 150
  - fuzzy 159, 161, 162
  - nonconflicting 148, 151, 153
- clustering 11, 207, 291, 315, 316
- component 1, 127, 137, 220
  - negative 126, 137
  - positive 130, 137, 178, 182
- concept 17, 241, 293
- Concept Integration Condition 246
- contradiction 1, 5, 250, 261
- conflict 4, 8, 17, 131
  - knowledge 13, 21, 103
  - ontology 9, 241, 340
- conflict body 16, 18
- conflict content 4, 16, 44
- conflict issue 4
- conflict participant 18, 43, 53, 89
- conflict subject 16, 18
- conjunction 5, 123, 179
- fuzzy 159, 160, 163
- inconsistent 127, 185
- nonconflicting 126, 127
- sharply inconsistent 127, 128
- consensus 4, 6, 10, 11, 152, 309
- consensus function 10, 50, 63, 152
- consensus method 4, 244, 336
- consensus susceptibility 10, 48, 84
- consistency measure 8, 43, 86, 239
- consistency function 10, 25, 35, 84
- data 2, 5, 49, 264
  - user 265, 281, 290
  - usage 265, 277, 281, 290
- database system 2, 6, 241
- distance 302, 304
- distance space 20, 70, 81, 226
- distribution aspect 4, 8, 9, 335
- document 160, 308, 310
  - relevant 309, 326, 327, 328
  - nonrelevant 309
- document ranking 340
- engine 1
  - search 9, 308
  - meta search 9, 11, 308, 325
- expert 4, 9, 18, 23, 165
- expert solution 10, 224, 237
- feedback 308, 310, 328
  - implicit 310
  - explicit 310
- function 4, 23, 41
  - consistency 10, 25, 33, 37, 84
  - consensus choice 8, 10, 49, 70
  - distance 10, 20, 38, 70
- fuzzy element 204, 205, 221

- fuzzy set 203
- half-metric 20, 89, 204, 205
- inconsistency 1, 3, 191
  - knowledge 3, 4, 8, 315
  - ontology 251, 252
- inconsistency degree 6, 17, 239
- inconsistency level 18, 127, 149
- inconsistent knowledge 1, 101
- inconsistent knowledge management 1
- incomplete information 13
- inconsistent knowledge processing 335
- information retrieval 9, 243, 307
- instance 241, 244, 246
- Instance Integration Condition 247, 252
- integration 3, 7, 8, 11, 120
  - data 330, 331
  - knowledge 7, 10, 102, 242
  - ontology 241, 244, 252
- integrity constraint 2, 6, 241
- intelligent learning system 263
- Internet 9, 11, 397, 309
- k-mean 291, 315
- knowledge 1
  - expert 9, 10, 45, 223
  - negative 9, 18, 22, 166, 168
  - positive 9, 17, 168, 179
  - uncertain 17, 22
- knowledge management 1, 95, 336
- knowledge base 1, 5, 266, 312
- knowledge presentation 264
- learner 11, 263, 265
- learning style 264, 278, 281
- learning strategy 264
- level 249, 252, 262
  - instance 244, 247, 252, 262
  - concept 244, 247, 254
  - relation 244, 247, 251
  - semantic 6, 9, 166, 201
  - syntactic 5, 122, 124, 158
- linear order 49, 266, 272
  - partial 266, 268, 284
  - weak 266, 286
- literal 124, 125, 140, 162
  - negative 124, 52, 159, 176
  - positive 124, 146, 176, 192
- logic formulae 1, 2, 5, 166
- macrostructure 20, 51
- measure 5, 73, 300, 316
  - consistency 8, 24, 85, 239
- metric 20, 106, 110, 205, 277
- metric space 20
- microstructure 20, 51, 100
- multiagent 4, 11, 52, 309, 313
- nonlogic base of knowledge 2
- ontology 9, 11, 241
- ontology merging 241, 242
- ontology mismatch 241
- opinion 4, 10, 18, 158, 238
  - expert 45, 203, 224, 227
- partition of a set 293
- postulate 8, 10, 25, 26, 138, 214
- presentation 264, 266, 267
- profile 10, 20, 31
  - conflict 6, 19, 25, 37, 95, 131
  - distinguishable 21, 41, 99, 138
  - fuzzily regular 210, 213
  - fuzzy conflict 10, 203
  - i-regular 79, 80
  - nonfuzzy conflict 203
  - homogeneous 25, 44, 74, 232
  - heterogeneous 27, 29, 75
  - learner 11, 263, 277
  - multiple 27, 29
  - negative 22, 129, 138, 192
  - nonhomogeneous 235, 309
  - positive 22, 129, 153
  - regular 79, 208
  - strong distinguishable 138, 143
  - uncertain 22
  - user 310, 323, 327
- proper solution 10, 45, 223

- 
- query 9, 11, 307
  - query modification 327, 332
  - relation 17, 51, 78, 249
    - binary 20, 49, 241, 295
  - real world 1, 13, 47, 124
  - recommendation procedure 9, 281
  - recommendation process 263, 306
  - recommender system 11, 263, 307
  - relevance 307, 309, 312
  - representation 7, 68, 131, 153
    - conflict 8, 47, 335
    - inconsistency 176, 201
    - knowledge 145, 159
  - resolution 13, 52, 241
    - conflict 8, 47, 53
    - inconsistency 3, 8, 166, 262
  - scenario 2, 9, 14, 44, 169
    - learning 9, 11, 279
    - opening 265, 281, 306
    - passed 265, 287, 296
  - structure 1, 6, 11, 21
    - conjunctive 9, 10, 175
    - disjunctive 10, 145, 165
    - fuzzy-based 9
    - relational 103, 166, 336
  - susceptibility to consensus 8, 10, 335
  - system 1, 6, 296
    - distributed 3, 52, 338, 342
    - intelligent tutoring 9, 11, 335
    - multiagent 4, 52, 123, 307
  - tuple 2, 25, 104
    - complex 103, 105
    - elementary 104, 169, 188
    - relational 1
  - URL 307, 316, 318
  - user interface 89, 289
  - weight function 89, 90, 92, 93
  - wisdom of the crowd 10, 225
  - WordNet 251, 328