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# DEVELOPMENT OF EXPERT SYSTEMS METHODOLOGIES AND APPLICATIONS

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**Abstract**

*In this particular paper we survey development of Expert System by methodologies and applications from 2005 to 2015 via a literature review of a theoretical and classification papers as a basis. The survey has actually been Dependent on a search in the papers for 'Expert System' in the Elsevier and IEEE. In accordance with coverage of 58 articles on Expert System applications, this paper surveys and classifies Expert System methodologies using two categories: Rule-based systems (RBS), Knowledge-based systems (KBS) along with their applications for various research and problem domains. In addition to, discussion has actually been presented, and it also suggests that, the subsequent trends is required to be taken into note very soon regarding the development of Expert Systems in methodologies and applications: first, Expert Systems methodologies are destined to develop through the use of expertise of Expert System applications in the domain. Secondly, it is suggested that different social science methodologies has got to be include to provide more opportunity for explore the methods that used to development of systems. Thirdly, the ability to continually change and get new understanding is the driving power of Expert System methodologies, and will be the Expert Systems applications of future works.*

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**References (54)**

1. H. K. Jabbar, R. Z. Khan
   Survey on Development of Expert System in the Areas of Medical , Education , Automobile and Agriculture

   *(2015) 2015 2nd International Conference on Computing for Sustainable Global Development (INDIACom), Page No 82–86,*

2. M. K. Ciliz
   Rule base reduction for knowledge-based fuzzy controllers with application to a vacuum cleaner

   *(2005) Expert Systems with Applications, Volume 28, Issue 1, Page No 175–184,*

3. B. Aktemur and S. Kamin
   Mumbo: A rule-based implementation of a runtime program generation language'

   *(2006) Electronic Notes in Theoretical Computer Science, Volume 147, Issue 1, Page No 31–55,*

4. H. J. Kreowski, K. Hölscher, and P. Knirsch
   Semantics of visual models in a rule-based setting

   *(2006) Electronic Notes in Theoretical Computer Science, Volume 148, Issue 1, Page No 75–88,*

5. D. Ballis
   A Rule-based System for Web site

   *(2006) Electronic Notes in Theoretical Computer Science, Volume 157, Issue 2, Page No 11–17,*

6. E. Kitzelmann and U. Schmid
   Inducing Constructor Systems from Example-Terms by Detecting Syntactical Regularities

   *(2007) Electronic Notes in Theoretical Computer Science, Volume 174, Issue 1, Page No 49–63,*

7. C. Braga and A. Verdejo
   Modular Structural Operational Semantics with Strategies

   *(2007) Electronic Notes in Theoretical Computer Science,*
   *Article Link: http://cgi.cse.unsw.edu.au/~rvg/SOS2006/FinalProceedings/Braga/sos06-proceedings.pdf*

8. A. C. J and L. Silva
   Using CafeOBJ to Mechanise Refactoring Proofs and Application

   *(2007) Electronic Notes in Theoretical Computer Science, Volume 184, Page No 39-61,*

9. B. Braatz
   A Rule-Based, Integrated Modelling Approach for Object-Oriented Systems

   *(2008) Electronic Notes in Theoretical Computer Science, Volume 211, Page No 251–260,*

10. D. Ballis, a. Baruzzo, and M. Comini
    A Rule-based Method to Match Software Patterns Against UML Models

    *(2008) Electronic Notes in Theoretical Computer Science, Volume 219, Page No 51–66,*

11. S. Wu, C. Chang, S. Ho, and H. Chao
    Rule-based intelligent adaptation in mobile information systems

    *(2008) Expert Systems with Applications, Volume 34, Issue 2, Page No 1078–1092,*

12. A. Macioł

An application of rule-based tool in attributive logic for business rules modeling

*(2008) Expert Systems with Applications, Volume 34, Issue 3, Page No 1825–1836,*

13. M. Baggi
An Ontology-based System for Semantic Filtering of XML Data

*(2009) Electronic Notes in Theoretical Computer Science, Volume 235, Page No 19–33,*

14. D. Lucanu
Strategy-Based Rewrite Semantics for Membrane Systems Preserves Maximal Concurrency of Evolution Rule Actions

*(2009) Electronic Notes in Theoretical Computer Science, Volume 237, Page No 107–125,*

15. V. Arturo, R. Zaldivar, and D. Burgos
Procedia Computer Science MetaMender : A meta-rule based recommendation system for educational applications

*(2010) Procedia Computer Science, Volume 1, Issue 2, Page No 2877–2882,*

16. A. Ustundag, M. S. Kılınc, and E. Cevikcan
Expert Systems with Applications Fuzzy rule-based system for the economic analysis of RFID investments

*(2010) Expert Systems with Applications, Volume 37, Issue 7, Page No 5300–5306,*

17. J. Sanz, A. Fernandez, H. Bustince, and F. Herrera
International Journal of Approximate Reasoning A genetic tuning to improve the performance of Fuzzy Rule-Based Classification Systems with Interval-Valued Fuzzy Sets : Degree of ignorance and lateral position

*(2011) International Journal of Approximate Reasoning, Volume 52, Issue 6, Page No 751–766,*

18. O. Cordon
A historical review of evolutionary learning methods for Mamdani-type fuzzy rule-based systems : Designing interpretable genetic fuzzy systems

*(2011) International Journal of Approximate Reasoning, Volume 52, Page No 894–913,*

19. M. J. Gacto, R. Alcala, and F. Herrera
Interpretability of linguistic fuzzy rule-based systems: An overview of interpretability measures

*(2011) Information Sciences, Volume 181, Issue 20, Page No 4340–4360,*

20. L. Dymova, P. Sevastianov, and K. Kaczmarek
Expert Systems with Applications A stock trading expert system based on the rule-base evidential reasoning using Level 2 Quotes

*(2012) Expert Systems with Applications, Volume 39, Issue 8, Page No 7150–7157,*

21. S. Chen, W. Hsin, S. Yang, and Y. Chang
Expert Systems with Applications Fuzzy interpolative reasoning for sparse fuzzy rule-based systems based on the slopes of fuzzy sets

*(2012) Expert Systems with Applications, Volume 39, Issue 15, Page No 11961–11969,*

22. C. Ho, T. Son, and D. Phong
Knowledge-Based Systems Modeling of a semantics core of linguistic terms based on an extension of hedge algebra semantics and its application

*(2014) Knowledge-Based System, Volume 67, Page No 244–262,*

23. A. Ikram and U. Qamar
Developing an expert system based on association rules and predicate logic for earthquake prediction

*(2015) Knowledge-Based System, Volume 75, Page No 87–103,*

24. A. Fernandez, V. López, M. Jose, and F. Herrera
Revisiting Evolutionary Fuzzy Systems : Taxonomy , applications , new trends and challenges

*(2015) Knowledge-Based Systems, Volume 80, Page No 109–121,*

25. Y. Chi, T. Chen, and W. Tsai
A chronic disease dietary consultation system using OWL-based ontologies and semantic rules

*(2015) Journal of Biomedical Informatics, Volume 53, Page No 208–219,*

26. G. Stapleton
A survey of reasoning systems based on Euler diagrams

*(2005) Electronic Notes in Theoretical Computer Science, Volume 134, Page No 127–151,*

27. C. Dixon, M. C. Fernández Gago, M. Fisher, and W. van der Hoek
Temporal Logics of Knowledge and their Applications in Security

*(2007) Electronic Notes in Theoretical Computer Science, Volume 186, Page No 27–42,*

28. Y. Biletskiy and G. R. Ranganathan
An Invertebrate Semantic/Software Application Development Framework for knowledge-based systems

*(2008) Knowledge-Based System, Volume 21, Issue 5, Page No 371–376,*

29. R. Marumo and S. E. M. Sebusang
Modelling plant control strategies and their applications into a knowledge-based system

*(2008) Applied Soft Computing, Volume 8, Issue 1, Page No 261–273,*

30. H. C. Huang
Designing a knowledge-based system for strategic planning: A balanced scorecard perspective

*(2009) Expert Systems With Applications, Volume 36, Issue 1, Page No 209–218,*

31. Y. L. Chi
A consumer-centric design approach to develop comprehensive knowledge-based systems for keyword discovery

*(2009) Expert Systems With Applications, Volume 36, Issue 2, Page No 2481–2493,*

32. S. Ribaric, D. Marcetic, and D. S. Vedrina
A knowledge-based system for the non-destructive diagnostics of façade isolation using the information fusion of visual and IR images

*(2009) Expert Systems With Applications, Volume 36, Issue 2, Page No 3812–3823,*

33. N. Li, R. Wang, J. Zhang, Z. Fu, and X. Zhang
Developing a knowledgebased early warning system for fish disease/health via water quality management

*(2009) Expert Systems With Applications, Volume 36, Issue 3, Page No 6500–6511,*

34. S. H. L. Mirhosseyni and P. Webb
A Hybrid Fuzzy Knowledge-Based Expert System and Genetic Algorithm for efficient selection and assignment of Material

Handling Equipment

*(2009) Expert Systems With Applications, Volume 36, Issue 9, Page No 11875–11887,*

35. E. S. Akerkar
Advanced knowledge-based systems: Models, applications and research trends

*(2010) Electronic Journal of Knowledge Management, Volume 1, Page No 1–11,*

36. Y. Meiller, S. Bureau, W. Zhou, and S. Piramuthu
Adaptive knowledgebased system for health care applications with RFID-generated information

*(2011) Decision Support Systems, Volume 51, Issue 1, Page No 198–207,*

37. H. L. Yang
Rough set theory based on two universal sets and its applications

*(2010) Knowledge-Based Systems, Volume 33, Issue 2, Page No 110–115,*
*DOI: https://doi.org/10.1016/j.knosys.2009.06.011*

38. H. Wei, Q. X. Xu, and X. S. Tang
A knowledge-based problem solving method in GIS application

*(2011) Knowledge-Based System, Volume 24, Issue 4, Page No 542– 553,*

39. N. Sanchez-Pi, J. Carbo, and J. M. Molina
A knowledge-based system approach for a context-aware system

*(2012) Knowledge-Based System, Volume 27, Page No 1– 17,*

40. F. Akasaka, Y. Nemoto, K. Kimita, and Y. Shimomura
Development of a knowledge-based design support system for Product-Service Systems

*(2012) Computers in Industry, Volume 63, Issue 4, Page No 309–318,*

41. R. J. Gil and M. J. Martin-Bautista
A novel integrated knowledge support system based on ontology learning: Model specification and a case study

*(2012) Knowledge-Based System, Volume 36, Page No 340–352,*

42. A. Ghanbari, S. M. R. Kazemi, F. Mehmanpazir, and M. M. Nakhostin
A cooperative ant colony optimization-genetic algorithm approach for construction of energy demand forecasting knowledge-based expert systems

*(2013) Knowledge-Based System, Volume 39, Page No 194–206,*

43. A. J. Garcia, C. I. Chesñevar, N. D. Rotstein, and G. R. Simari
Formalizing dialectical explanation support for argument-based reasoning in knowledgebased systems

*(2013) Expert Systems With Applications, Volume 40, Issue 8, Page No 3233–3247,*

44. P. Gay, B. Lopez, A. Plà, J. Saperas, and C. Pous
Enabling the use of hereditary information from pedigree tools in medical knowledge-based systems

*(2013) Journal of Biomedical Informatics, Volume 46, Issue 4, Page No 710–720,*

45. V. Naranje and S. Kumar
A knowledge based system for automated design of deep drawing die for axisymmetric parts

*(2014) Expert Systems With Applications, Volume 41, Issue 4, Page No 1419–1431,*

46. A. Alzghoul, B. Backe, M. Lofstrand, A. Bystrom, and B. Liljedahl
    Comparing a knowledge-based and a data-driven method in querying data streams for system fault detection: A hydraulic drive system application

    *(2014) Computers in Industry, Volume 65, Page No 1126–1135,*

47. L. O. Colombo-Mendoza, R. Valencia-Garcia, A. Rodriguez-Gonzalez, G. Alor-Hernandez, and J. J. Samper-Zapater
    RecomMetz: A context-aware knowledge-based mobile recommender system for movie showtimes

    *(2015) Expert Systems With Applications, Volume 42, Issue 3, Page No 1202–1222,*

48. A. Smirnov, T. Levashova, and N. Shilov
    Patterns for context-based knowledge fusion in decision support systems

    *(2015) Information Fusion, Volume 21, Issue 1, Page No 114–129,*

49. P. W. Kwan, M. C. Welch, and J. J. Foley
    A knowledge-based Decision Support System for adaptive fingerprint identification that uses relevance feedback

    *(2015) Knowledge-Based System, Volume 73, Page No 236–253,*

50. S. Quintana-Amate, P. Bermell-Garcia, and a. Tiwari
    Transforming expertise into Knowledge-Based Engineering tools: A survey of knowledge sourcing in the context of engineering design

    *(2015) Knowledge-Based System,*

51. E. Roldan Reyes, S. Negny, G. Cortes Robles, and J. M. Le Lann
    Improvement of online adaptation knowledge acquisition and reuse in casebased reasoning: Application to process engineering design

    *(2015) Engineering Applications of Artificial Intelligence, Volume 41, Page No 1–16,*

52. E. B. V All, I. This, and C. A. Diagnostic
    Bioinspired and knowledge based techniques and applications

    *(2015) Neurocomputing, Volume 150, Page No 1–3,*

53. Mrs. Charmy Patel and Dr. Ravi Gulati.
    Software Performance Analysis: A Data Mining Approach

    *(2014) International Journal of Information Technology and Management Information Systems, Volume 5, Issue 2, Page No 28-31,*

54. Dr. Suryakant B Patil, Ms. Ashlesha Sawant and Dr. Preeti Patil
    Improvement in The Efficiency of Web Based Search Engines by Increasing Page Rank based on Referring Factors

    *(2014) International Journal of Information Technology and Management Information Systems, Volume 5, Issue 1, Page No 53-59,*

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