

# Bibliographie

- [ABBD03] AOUCHE K., BENTAYEB F., BOUSSAÏD O., DARMONT J., « Conception informatique d'une base de données multimédia de corpus linguistiques oraux : l'exemple de CLAPI 2 », in *36ème Colloque International de la Societas Linguistica Europaea, Lyon, France*, pp. 11–12. Septembre 2003.
- [ACN00] AGRAWAL S., CHAUDHURI S., NARASAYYA V.R., « Automated Selection of Materialized Views and Indexes in SQL Databases », in *26th International Conference on Very Large Data Bases (VLDB 2000), Cairo, Egypt*, pp. 496–505. 2000.
- [ACN01] AGRAWAL S., CHAUDHURI S., NARASAYYA V., « Materialized View and Index Selection Tool for Microsoft SQL Server 2000 », in *ACM SIGMOD International Conference on Management of Data (SIGMOD 2001), Santa Barbara, USA*, p. 608. 2001.
- [ADB04] AOUCHE K., DARMONT J., BOUSSAÏD O., « Sélection automatique d'index dans les entrepôts de données », in *1er atelier Fouille de Données Complexes dans un processus d'extraction des connaissances (EGC 2004), Clermont-Ferrand, France*, pp. 91–102. 2004.
- [ADBB05] AOUCHE K., DARMONT J., BOUSSAÏD O., BENTAYEB F., « Automatic Selection of Bitmap Join Indexes in Data Warehouses », in *7th International Conference on Data Warehousing and Knowledge Discovery (DaWaK 05), Copenhagen, Denmark*, volume 3589 de LNCS, pp. 64–73, Heidelberg, Germany : Springer Verlag. August 2005.
- [ADG03a] AOUCHE K., DARMONT J., GRUENWALD L., « Frequent itemsets mining for

- database auto-administration », in *7th International Database Engineering and Application Symposium (IDEAS 2003)*, Hong Kong, China, pp. 98–103. 2003.
- [ADG03b] AOUICHE K., DARMONT J., GRUENWALD L., « Vers l’auto-administration des entrepôts de données », *Revue des Nouvelles Technologies de l’Information*, (1) :1–12. 2003.
- [Aou02] AOUICHE K., *Techniques d’ECD pour l’auto-administration des bases de données*, Master’s thesis, INSA de Lyon. 2002.
- [AS94] AGRAWAL R., SRIKANT R., « Fast Algorithms for Mining Association Rules in Large Databases », in *20th international conference on Very Large Data Bases (VLDB 1994)*, Santiago de Chile, Chile, pp. 478–499. 1994.
- [BB00] BARIL X., BELLAHSÈNE Z., « A View Model for XML Documents », in *6th International Conference on Object Oriented Information Systems (OOIS 00)*, London, UK, pp. 429–441. 2000.
- [BB03a] BARIL X., BELLAHSÈNE Z., *Designing and Managing an XML Warehouse*, pp. 455–473, XML Data Management : Native XML and XML-enabled Database Systems, Addison Wesley. 2003.
- [BB03b] BARIL X., BELLAHSENE Z., « Selection of Materialized Views : a Cost-Based Approach », in *15th International Conference on Advanced Information Systems Engineering (CAiSE 2003)*, Klagenfurt, Austria, pp. 665–680. 2003.
- [BBM05] BELLATRECHE L., BOUKHALFA K., MOHANIA M., « An Evolutionary Approach to Schema Partitioning Selection in a Data Warehouse Environmen », in *7th International Conference on Data Warehousing and Knowledge Discovery (DaWaK 05)*, Copenhagen, Denmark, volume 3589 de LNCS, pp. 115–125, Heidelberg, Germany : Springer Verlag. August 2005.
- [BCF<sup>+</sup>05] BOAG S., CHAMBERLIN D., FERNÁNDEZ M.F., FLORESCU D., ROBIE J., SIMÉON J., « XQuery 1.0 : An XML Query Language, W3C Working Draft », <http://www.w3.org/TR/xquery/>. 2005.
- [BKS00] BELLATRECHE L., KARLPALEM K., SCHNEIDER M., « On efficient storage space distribution among materialized views and indices in data warehousing

- environments », in *9th International Conference on Information and Knowledge Management (CIKM 2000)*, McLean, USA, pp. 397–404. 2000.
- [BM72] BAYER R., MCCREIGHT E.M., « Organization and Maintenance of Large Ordered Indices », *Acta Informatica*, 1 :173–189. 1972.
- [BM01] BIZARRO P., MADEIRA H., « The Dimension-Join : A New Index for Data Warehouses », in *16th Simpósio Brasileiro de Banco de Dados (SBDD 2001)*, Rio de Janeiro, Brazil, pp. 259–273. 2001.
- [BP90] BARCUCCI E., PINZANI O., « Optimal Selection of Secondary Indexes », *IEEE Transactions on Software Engineering*, 16(1) :32–38. 1990.
- [BPT97] BARALIS E., PARABOSCHI S., TENIENTE E., « Materialized Views Selection in a Multidimensional Database », in *23rd International Conference on Very Large Data Bases (VLDB 1997)*, Athens, Greece, pp. 156–165. 1997.
- [Bri97] BRICK R., « Star schema processing for complex queries », White paper. 1997.
- [BSMB02] BELLATRECHE L., SCHNEIDER M., MOHANIA M., BHARGAVA B.K., « Part-join : An efficient storage and query execution for data warehouses », in *4th International Conference on Data Warehousing and Knowledge Discovery (DaWaK 02)*, Aix-en-Provence, France, pp. 296–306. 2002.
- [Car75] CARDENAS A.F., « Analysis and Performance of Inverted Data Base Structures », *Communication of the ACM*, 18(5) :253–263. 1975.
- [CBC93a] CHOENNI S., BLANKEN H.M., CHANG T., « Index Selection in Relational Databases », in *5th International Conference on Computing and Information ICCI 1993*, Ontario, Canada, pp. 491–496. 1993.
- [CBC93b] CHOENNI S., BLANKEN H.M., CHANG T., « On the Selection of Secondary Indices in Relational Databases », *Data Knowledge Engineering*, 11(3) :207–238. 1993.
- [CD05] CLARK J., DEROSE S., « XPath 1.0 : XML Path Language, W3C Recommendation », <http://www.w3.org/TR/xpath>. 2005.
- [Cha98] CHAUDHURI S., « Data Mining and Database Systems : Where is the Intersection ? », *Data Engineering Bulletin*, 21(1) :4–8. 1998.

- [CLF99] CHAN G.K.Y., LI Q., FENG L., « Design and selection of materialized views in a data warehousing environment : a case study », in *2nd ACM international workshop on Data warehousing and OLAP (DOLAP 1999), Kansas City, USA*, pp. 42–47. 1999.
- [CM99] CHAUDHURI S., MOTWANI R., « On Sampling and Relational Operators », *IEEE Data Engineering Bulletin*, 22(4) :41–46. 1999.
- [CMS02] CHUNG C., MIN J., , SHIM K., « APEX : An Adaptive Path Index for XML Data », in *ACM SIGMOD International Conference on Management of Data (SIGMOD 2002), Madison, USA*, pp. 121–132. 2002.
- [CN97] CHAUDHURI S., NARASAYYA V.R., « An Efficient Cost-Driven Index Selection Tool for Microsoft SQL Server », in *23rd international Conference on Very Large Data Bases (VLDB 1994), Santiago de Chile, Chile*, pp. 146–155. 1997.
- [CN98] CHAUDHURI S., NARASAYYA V.R., « AutoAdmin ‘What-if’ Index Analysis Utility », in *ACM SIGMOD International Conference on Management of Data (SIGMOD 1998), Seattle, USA*, pp. 367–378. 1998.
- [Com78] COMER D., « The difficulty of optimum index selection », *ACM Transactions on Database Systems (TODS)*, 3(4) :440–445. 1978.
- [CSF<sup>+</sup>01] COOPER B., SAMPLE N., FRANKLIN M.J., HJALTASON G.R., SHADMON M., « A Fast Index for Semistructured Data », in *27th International Conference on Very Large Data Bases (VLDB 2001), Roma, Italy*, pp. 341–350. 2001.
- [DBB05] DARMONT J., BENTAYEB F., BOUSSAÏD O., « DWEB : A Data Warehouse Engineering Benchmark », in *7th International Conference on Data Warehousing and Knowledge Discovery (DaWaK 05), Copenhagen, Denmark*, volume 3589 de *LNCS*, pp. 85–94, Heidelberg, Germany : Springer Verlag. August 2005.
- [DBRA05] DARMONT J., BOUSSAÏD O., RALAIVAO J., AOUCHE K., « An Architecture Framework for Complex Data Warehouses », in *7th International Conference on Enterprise Information Systems (ICEIS 05), Miami, USA*, pp. 370–373. May 2005.
- [Fil00] FILIPOVIĆ V., *Proposition for improvement tournament selection operator in génétic algorithms*, Master’s thesis, Faculty of Mathematics, Belgrade. 2000.

- [FON92] FRANK M.R., OMIECINSKI E., NAVATHE S.B., « Adaptive and Automated Index Selection in RDBMS », in *3rd International Conference on Extending Database Technology, EDBT 1992, Vienna, Austria*, volume 580 de *Lecture Notes in Computer Science*, pp. 277–292. 1992.
- [FR03] FELDMAN Y.A., REOUVEN J., « A knowledge-based approach for index selection in relational databases », *Expert System with Applications*, 25(1) :15–37. 2003.
- [FST88] FINKELSTEIN S.J., SCHKOLNICK M., TIBERIO P., « Physical Database Design for Relational Databases », *ACM Transactions on Database Systems*, 13(1) :91–128. 1988.
- [GCB<sup>+</sup>97] GRAY J., CHAUDHURI S., BOSWORTH A., LAYMAN A., REICHART D., VENKATRAO M., PELLOW F., PIRAHESH H., « Data Cube : A Relational Aggregation Operator Generalizing Group-By, Cross-Tab, and Sub-Totals », *Data Mining and Knowledge Discovery*, 1(1) :29–53. 1997.
- [GHRU97] GUPTA H., HARINARAYAN V., RAJARAMAN A., ULLMAN J.D., « Index Selection for OLAP », in *13th International Conference on Data Engineering (ICDE 1997), Birmingham, U.K.*, pp. 208–219. 1997.
- [GM99] GUPTA H., MUMICK I.S., « Selection of Views to Materialize Under a Maintenance Cost Constraint », in *7th International Conference on Database Theory (ICDT 1999), Jerusalem, Israel*, pp. 453–470. 1999.
- [GM05] GUPTA H., MUMICK I.S., « Selection of Views to Materialize in a Data Warehouse », *IEEE Transactions on Knowledge and Data Engineering*, 17(1) :24–43, ISSN 1041-4347. 2005.
- [Gol89] GOLDBERG D.E., *Genetic Algorithms in Search, Optimization, and Machine Learning*, Reading, MA : Addison-Wesley. 1989.
- [GR98] GOLFARELLI M., RIZZI S., « A Methodological Framework for Data Warehouse Design », in *1st ACM international workshop on Data warehousing and OLAP (DOLAP 1998), New York, USA*, pp. 3–9. 1998.

- [GrL01] GOLDSTEIN J., ÅKE LARSON P., « Optimizing queries using materialized views : a practical, scalable solution », in *ACM SIGMOD international conference on Management of data (SIGMOD 2001)*, Santa Barbara, USA, pp. 331–342. 2001.
- [GRS02] GOLFARELLI M., RIZZI S., SALTARELLI E., « Index selection for data warehousing », in *4th International Workshop on Design and Management of Data Warehouses (DMDW 2002)*, Toronto, Canada, pp. 33–42. 2002.
- [Gun99] GUNDEM T.I., « Near optimal multiple choice index selection for relational databases », *Computers & Mathematics with Applications*, 37(2) :111–120. 1999.
- [Gup97] GUPTA H., « Selection of Views to Materialize in a Data Warehouse », in *6th International Conference on Database Theory (ICDT 1997)*, Delphi, Greece, pp. 98–112. 1997.
- [Gup99] GUPTA H., *Selection and Maintenance of Views in a Data Warehouse*, Thèse de doctorat, Stanford University. 1999.
- [HBH03] HÜMMER W., BAUER A., HARDE G., « XCube : XML for data warehouses », in *6th ACM International Workshop on Data warehousing and OLAP (DOLAP 03)*, New Orleans, USA, pp. 33–40. 2003.
- [Heg05] HEGARET P.L., « Document Object Model (DOM) », <http://www.w3.org/DOM/>. 2005.
- [HLL03] HU X., LIN T., LOUIE E., « Bitmap Techniques for Optimizing Decision Support Queries and Association Rule Algorithms », in *7th International Database Engineering and Application Symposium (IDEAS 2003)*, Hong Kong, China, pp. 34–43. 2003.
- [HRU96] HARINARAYAN V., RAJARAMAN A., ULLMAN J.D., « Implementing data cubes efficiently », in *ACM SIGMOD International Conference on Management of data (SIGMOD 1996)*, Montreal, Canada, pp. 205–216. 1996.
- [Inm02] INMON W., *Building the Data Warehouse*, John Wiley & Sons, third édition. 2002.

- [ISR83] IP M.Y.L., SAXTON L.V., RAGHAVAN V.V., « On the Selection of an Optimal Set of Indexes », *IEEE Transactions on Software Engineering*, 9(2) :135–143. 1983.
- [JAKC<sup>+</sup>02] JAGADISH H.V., AL-KHALIFA S., CHAPMAN A., LAKSHMANAN L.V.S., NIERMAN A., PAPANIZOS S., PATEL J.M., SRIVASTAVA D., WIWATWATTANA N., WU Y., YU C., « TIMBER : A native XML database », *28th International Conference on Very Large Data Bases (VLDB 2002)*, Hong Kong, China, 11(4) :274–291. 2002.
- [JMF99] JAIN A.K., MURTY M.N., FLYNN P.J., « Data clustering : a Review », *ACM Computing Surveys*, 31(3) :264–323. 1999.
- [JN03a] JOUVE P., NICOLOYANNIS N., « KEROUAC : an Algorithm for Clustering Categorical Data Sets with Practical Advantages », in *International Workshop on Data Mining for Actionable Knowledge (DMAK 2003)*, Seoul, Korea. 2003.
- [JN03b] JOUVE P., NICOLOYANNIS N., « A New Method for Combining Partitions, Applications for Distributed Clustering », in *International Workshop on Parallel and Distributed Machine Learning and Data Mining (ECML/PKDD 2003)*, Cavtat-Dubrovnik, Croatia, pp. 35–46. 2003.
- [Jou03] JOUVE P.E., *Apprentissage Non Supervisé et Extraction de Connaissances à partir de Données*, Thèse de doctorat, Université Lumière Lyon 2. 2003.
- [KGY] K.GUPTA R., G.SHUQIAO, Y.ZHEN, « A Report on XML Data Indexing Techniques », Technical report, National University of Singapore.
- [Kin74] KING W.F., « On the Selection of Indices for a File », Technical report, International Business Machines (IBM), TR.RJ 1341, San Jose CA. 1974.
- [KLT03] KRATICA J., LJUBIĆ I., TOŠIĆ D., « A Genetic Algorithm for the Index Selection Problem », in *Applications of Evolutionary Computing, EvoWorkshops 2003 : EvoBIO, EvoCOP, EvoIASP, EvoMUSART, EvoROB, EvoSTIM*, volume 2611 de *LNCS*, pp. 281–291. 2003.
- [KMP02] KALNIS P., MAMOULIS N., PAPADIAS D., « View selection using randomized search », *Data Knowledge Engineering*, 42(1) :89–111. 2002.

- [KR99] KOTIDIS Y., ROUSSOPOULOS N., « DynaMat : A Dynamic View Management System for Data Warehouses », in *ACM SIGMOD International Conference on Management of Data (SIGMOD 1999)*, Philadelphia, USA, pp. 371–382. 1999.
- [KR02] KIMBALL R., ROSS M., *The Data Warehouse Toolkit : The Complete Guide to Dimensional Modeling*, John Wiley & Sons, second édition. 2002.
- [KY87] KYU-YOUNG W., *Foundation of Data Organization*, chapitre Index Selection in Rational Databases, pp. 497–500, Plenum Publishing Co. 1987.
- [LM01] LI Q., MOON B., « Indexing and Querying XML Data for Regular Path Expressions », in *27th International Conference on Very Large Data Bases (VLDB 2001)*, Roma, Italy, pp. 361–370. 2001.
- [Mah05] MAHBOUBI H., *Optimisation des performances pour les entrepôts de données XML*, Master’s thesis, INSA de Lyon. 2005.
- [ME92] MISHRA P., EICH M., « Join Processing in Relational Databases », *ACM Computing Surveys*, 24(1) :63–113. 1992.
- [Mei05] MEIER W., « eXist : An Open Source Native XML Database », <http://exist.sourceforge.net/>. 2005.
- [Mic01] MICROSOFT, « AutoAdmin : Self-Tuning and Self-Administering Databases », <http://www.research.microsoft.com/dmx/AutoAdmin>. 2001.
- [NT01] NADEAU T.P., TEOREY T.J., « A Pareto model for OLAP view size estimation », in *4th Conference of the Centre for Advanced Studies on Collaborative Research (CASCON 2001)*, Toronto, Canada, p. 13. 2001.
- [NT02] NADEAU T.P., TEOREY T.J., « Achieving Scalability in OLAP Materialized View Selection », in *5th ACM International Workshop on Data Warehousing and OLAP (DOLAP 2002)*, McLean, USA, pp. 28–34. 2002.
- [OG95] O’NEIL P., GRAEFE G., « Multi-table joins through bitmapped join indices », *SIGMOD Record*, 24(3) :8–11. 1995.
- [OQ97] O’NEIL P., QUASS D., « Improved Query Performance with Variant Indexes », in *ACM SIGMOD International Conference on Management of Data (SIGMOD 1997)*, Tucson, USA, pp. 38–49. 1997.



- [Pas00] PASQUIER N., *Data Mining : Algorithmes d'Extraction et de Réduction des Règles d'Association dans les Bases de Données*, Thèse de doctorat, Université de Clermont-Ferrand II. 2000.
- [PBTL99a] PASQUIER N., BASTIDE Y., TAOUIL R., LAKHAL L., « Discovering Frequent Closed Itemsets for Association Rules », in *7th International Conference on Database Theory (ICDT 1999)*, Jerusalem, Israel, volume 1540 de LNCS, pp. 398–416. 1999.
- [PBTL99b] PASQUIER N., BASTIDE Y., TAOUIL R., LAKHAL L., « Efficient Mining of Association Rules Using Closed Itemset Lattices », *Information Systems*, 24(1) :25–46. 1999.
- [Pok01] POKORNÝ J., « Modelling stars using XML », in *4th ACM international workshop on Data warehousing and OLAP (DOLAP 2001)*, Atlanta, USA, pp. 24–31. 2001.
- [Pok02] POKORNÝ J., « XML Data Warehouse : Modelling and Querying », in *5th International Baltic Conference (BalticDB&IS 2002)*, Tallin, Estonia, pp. 267–280. 2002.
- [RS03] RIZZI S., SALTARELLI E., « View Materialization vs. Indexing : Balancing Space Constraints in Data Warehouse Design », in *15th International Conference on Advanced Information Systems Engineering (CAiSE 2003)*, Klagenfurt, Austria, pp. 502–519. 2003.
- [Sar97] SARAWAGI S., « Indexing OLAP Data », *Data Engineering Bulletin*, 20(1) :36–43. 1997.
- [SDN00] SHUKLA A., DESHPANDE P., NAUGHTON J.F., « Materialized View Selection for Multi-Cube Data Models », in *7th International Conference on Extending DataBase Technology (EDBT 2000)*, Konstanz, Germany, pp. 269–284. 2000.
- [SDNR96] SHUKLA A., DESHPANDE P.M., NAUGHTON J.F., RAMASAMY K., « Storage Estimation for Multidimensional Aggregates in the Presence of Hierarchies », in *22nd International Conference on Very Large Data Bases (VLDB 1996)*, Bombay, India, pp. 522–531. 1996.

- [SLJ04] SMITH J.R., LI C.S., JHINGRAN A., « A Wavelet Framework for Adapting Data Cube Views for OLAP », *IEEE Transactions on Knowledge and Data Engineering*, 16(5) :552–565. 2004.
- [SON95] SAVASERE A., OMIENCINSKI E., NAVATHE S., « An Efficient Algorithms for Mining Association Rules in Large Databases », in *21st International Conference on Very Large Data Bases (VLDB 1995), Zurich, Switzerland*, pp. 432–444. 1995.
- [Sri96] SRIKANT R., *Fast Algorithms for Mining Association Rules and Sequential Patterns*, Thèse de doctorat, University of Wisconsin. 1996.
- [SS05] SHANG X., SATTLER K.U., « Processing Sequential Patterns in Relational Databases », in *7th International Conference on Data Warehousing and Knowledge Discovery (DaWaK 05), Copenhagen, Denmark*, volume 3589 de LNCS, pp. 438–447, Heidelberg, Germany : Springer Verlag. August 2005.
- [Sys89] SYSWERDA G., « Uniform crossover in genetic algorithms », in *3rd International Conference on Genetic Algorithms ICGA 1989*, pp. 2–9. 1989.
- [TM75] TREMBLAY J.P., MANOHAR R., *Discrete Mathematical Structures with Applications to Computer Science*, McGraw-Hill. 1975.
- [URT99] UCHIYAMA H., RUNAPONGSA K., TEOREY T.J., « A Progressive View Materialization Algorithm », in *2nd ACM International Workshop on Data warehousing and OLAP (DOLAP 1999), Kansas City, USA*, pp. 36–41. 1999.
- [Val87] VALDURIEZ P., « Join indices », *ACM Transactions on Database Systems*, 12(2) :218–246. 1987.
- [VG99] VANACHAYOBON S., GRUENWALD L., « Indexing Techniques for Data Warehouses' Queries », Technical report, The University of Oklahoma, School of Computer Science. 1999.
- [VMGM02] VALTCHEV P., MISSAOUI R., GODIN R., MERIDJI M., « Generating Frequent Itemsets Incrementally : Two Novel Approaches Based on Galois Lattice Theory », *Journal of Experimental & Theoretical Artificial Intelligence*, 2–3(4) :115–142. 2002.

- [VVK02] VALLURI S.R., VADAPALLI S., KARLAPALEM K., « View Relevance Driven Materialized View Selection in Data Warehousing Environment », in *13th Australasian Database Technologies (ADC 2002), Melbourne, Australia*, pp. 187–196. 2002.
- [VZZ<sup>+</sup>00] VALENTIN G., ZULIANI M., ZILIO D., LOHMAN G., SKELLEY A., « DB2 Advisor : An Optimizer Smart Enough to Recommend Its Own Indexes », in *16th International Conference on Data Engineering, (ICDE 2000), California, USA*, pp. 101–110. 2000.
- [WB98] WU M., BUCHMANN A., « Encoded Bitmap Indexing for Data Warehouses », in *14th International Conference on Data Engineering (ICDE 1998), Orlando, USA*, pp. 220–230. 1998.
- [WMHZ02] WEIKUM G., MONKEBERG A., HASSE C., ZABBACK P., « Self-tuning Database Technology and Information Services : from Wishful Thinking to Viable Engineering », in *28th International Conference on Very Large Data Bases (VLDB 2002), Hong Kong, China*, pp. 20–31. 2002.
- [Wu99] WU M., « Query Optimization for Selections Using Bitmaps », in *ACM SIGMOD International Conference on Management of Data (SIGMOD 1999), Philadelphia, USA*, pp. 227–238. 1999.
- [Yao77] YAO S.B., « Approximating Block Accesses in Database Organizations », *Communication of the ACM*, 20(4) :260–261. 1977.
- [YG01] YEH L., GARDARIN G., « Indexing XML Objects with Ordered Schema Trees », in *20th Conference on Bases de Données Avancées (BDA 2001), Montpellier, France*, pp. 361–370. 2001.
- [YHA05] YAO Q., HUANG J., AN A., « Machine Learning Approach to Identify Database Sessions Using Unlabeled Data », in *7th International Conference on Data Warehousing and Knowledge Discovery (DaWaK 05), Copenhagen, Denmark*, volume 3589 de *LNCS*, pp. 254–255, Heidelberg, Germany : Springer Verlag. August 2005.
- [YKL97] YANG J., KARLAPALEM K., LI Q., « Algorithms for Materialized View Design in Data Warehousing Environment », in *23rd International Conference on Very Large Data Bases (VLDB 1997), Athens, Greece*, pp. 136–145. 1997.

- [ZE99] ZAMIR O., ETZIONI O., « GROUPER : a Dynamic Clustering Interface to WEB Search Results », *Computer Networks*, 31(11-16) :1361-1374. 1999.
- [ZYY01] ZHANG C., YAO X., YANG J., « An Evolutionary Approach to Materialized View Selection in a Data Warehouse Environment », *IEEE Transactions on Systems, Man, and Cybernetics*, 31(3) :282-294. 2001.