

Hiroshi Motoda

Summary

Hiroshi Motoda is Professor Emeritus of Osaka University and now is retired. He was a scientific advisor at AFOSR/AOARD (Asian Office of Aerospace Research and Development, Air Force Office of Scientific Research, US Air Force Research Laboratory) since 2006 till 2018, and worked as an international program officer. Before that, he was a professor at the department of Advanced Reasoning in the division of Intelligent Systems Science at ISIR (Institute of Scientific and Industrial Research) of Osaka University since 1996 until 2006. Further before joining the university, he had been with Hitachi since 1967, participated in research on nuclear reactor core management, control and design of nuclear power reactors, expert systems for nuclear power plant diagnosis at the Central Research Laboratory (1967-1971), the Atomic Energy Research laboratory (1971-1978) and the Energy Research Laboratory (1978-1985), and on artificial intelligence, machine learning, knowledge acquisition, qualitative reasoning and diagrammatic reasoning at the Advanced Research Laboratory (1985-1995). He continued to work on machine learning and knowledge acquisition, and has extended his research to scientific knowledge discovery and data mining at Osaka University. At AOARD he had worked on social network analysis while funding basic research in Asian Countries and managing projects in computational intelligence. He was the principal investigator of the active mining project funded by the Japanese Ministry of Education, Culture, Sports, Science and Technology (MEXT) that involved about 20 universities and research institutes (2001-2004). He received his Bs, Ms and PhD degrees in nuclear engineering from the University of Tokyo. He was on the board of trustee of the Japan Society of Software Science and Technology (JSSST), the Japanese Society for Artificial Intelligence (JSAI) and the Japanese Cognitive Science Society (JCSS), and on the scientific advisory board of Alberta Ingenuity Center of Machine Learning. He was the chair of SIG-KBS and SIG-FAI of JSAI, the chair of the steering committee of Pacific Asian Conference of Knowledge Discovery and Data Mining, the chair of the steering committee of International Conference on Discovery Science, the chair of the steering committee of Asian Conference on Machine Learning, and on the editorial board of JSAI, JCSS and Knowledge Acquisitionq (Academic Press), IEEE Expert, Knowledge and Information Systems: An International Journal (Springer), Advanced Engineering Informatics (Elsevier), International Journal of Human-Computer Studies (Elsevier), Intelligent Data Analysis: An International Journal (IOS Press) and International Journal of Data Science and Analytics (Springer). He is now an honorary member of the steering committee of Pacific Rim International Conference of Artificial

Intelligence, a life long member of the steering committee of Pacific Asian Conference of Knowledge Discovery and Data Mining, an honorary member of the steering committee of Asian Conference on Machine Learning, an honorary member of the steering committee of International Conference on Discovery Science, and a member of the steering committee of IEEE International Conference on Data Science and Advanced Analytics. He received the best paper awards twice from Atomic Energy Society of Japan (1977, 1984), four times from JSAI (1989, 1992, 2000, 2018), the best research paper award for DSAA2014 (2014), the outstanding achievement awards from JSAI (2000), the distinguished contribution award for PAKDD (2006), the outstanding contribution award from Web Intelligence Consortium (2008), the distinguished contribution award for PRICAI (2014) and the distinguished contribution award for ACML (2018). He co-authored/co-edited four books on feature selection/extraction/construction. His book “Fundamentals of Data Mining” was awarded the 2007 Okawa Publishing Prize. He was a member of AESJ, ANS, AAAI, IEEE, JCSS, IPSJ and is a member of JSAI (Fellow) and WIA (Fellow).

1. Personal Data

- Retired - Current Titles:

Professor Emeritus, Osaka University
Guest Professor, ISIR, Osaka University

- Contact information:

Email: motoda (at) sanken.osaka-u.ac.jp
URL: <http://www.ar.sanken.osaka-u.ac.jp/~motoda/motopreg.html>

- Work history:

Scientific Advisor, Asian Office of Aerospace Research and Development, Air Force Office of Scientific Research, Air Force Research Laboratory, USA (May, 2006 to April, 2018)

Professor, The Institute of Scientific and Industrial Research, Osaka University (January, 1996 to March, 2006)

Senior Chief Research Scientist, Advanced Research Laboratory, Hitachi, Ltd. (August, 1994 to December, 1995)

Chief Research Scientist, Advanced Research Laboratory, Hitachi, Ltd. (April, 1987 to July, 1994)

Senior Research Scientist, Advanced Research Laboratory, Hitachi, Ltd. (April, 1985 to March, 1987)

Senior Research Scientist, Energy Research Laboratory, Hitachi, Ltd. (April, 1978 to March, 1985)

Senior Research Scientist, Atomic Energy Research Laboratory, Hitachi, Ltd. (August, 1976 to March, 1978)

Visiting Scholar, Department of Nuclear Engineering, Purdue University (September, 1972 to August, 1973)

Research Scientist, Atomic Energy Research Laboratory, Hitachi, Ltd. (April, 1971 to July, 1976)

Research Scientist, Central Research Laboratory, Hitachi, Ltd. (April, 1967 to March, 1971)

2. Education

- Teknowledge Inc. (Oct. 1981 - Mar. 1982)
- Dept. of Nuclear Engineering, Purdue University, Visiting Scholar (Sep. 1972 - Aug. 1973)
- Department of Nuclear Engineering, Graduate School of Engineering, University of Tokyo (1965-1967)
- Department of Nuclear Engineering, Faculty of Engineering, University of Tokyo (1963-1965)
- College of General Education, University of Tokyo (1961-1963)

3. Degrees

PhD from department of Nuclear Engineering, University of Tokyo, 11/1972

- Thesis: Optimization of in-core fuel management for nuclear power reactors

Ms from department of Nuclear Engineering, University of Tokyo, 03/1967

- Thesis: Optimal control of nuclear reactor for xenon poisoning problem

Bs from department of Nuclear Engineering, University of Tokyo, 03/1965

- Thesis: Experimental study of two-region coupled core in a sub-critical assembly

4. Awards

Fellow of Web Intelligence Academy, 10/2023

Special achievement award of the Pacific Asian Conference on Data Mining and Knowledge Discovery, 05/2020

Best paper award of Japanese Society for Artificial Intelligence, 06/2019

- Extracting Cooperative Structure among Online Items from Share-Event Sequence

Distinguished contribution award of the Asian Conference on Machine Learning, 11/2018

Best paper award runner up for the 14th Pacific Rim International Conference on Artificial Intelligence, 08/2016

- Detecting Critical Links in Complex Network to Maintain Information Flow/Reachability

Best paper award for the special interest group of Japanese Society for Artificial Intelligence, 06/2016

- Combining Activity-evaluation Information with NMF for Trust-link Prediction in Social Media

Distinguished paper award for the annual conference of Japanese Society for Artificial Intelligence, 06/2015

- Identifying High Centrality Nodes in Social Network based on Gap Analysis with a Confidence Level

Distinguished contribution award of the Pacific Rim International Conference on Artificial Intelligence, 12/2014

Best research paper award for the 2014 International Conference on Data Science and Advanced Analytics, 10/2014

- Efficient Analysis of Node Influence Based on SIR Model over Huge Complex Networks

Fellow of Japanese Society of Artificial Intelligence, 6/2009

Outstanding contribution award of Web Intelligence Consortium, 12/2008

Okawa publishing award, 11/2007

- Fundamentals of Data Mining, Ohmsha, Ltd., 12/2006

Distinguished contribution award of the Pacific Asian Conference on Data Mining and Knowledge Discovery, 04/2006

Best paper award for the special interest group of Japanese Society for Artificial Intelligence, 06/2005

- Development of Classifier by Using QAR Analysis

Best paper award for the special interest group of Japanese Society for Artificial Intelligence, 06/2003

- A Data Mining System: MUSASHI

Distinguished paper award for the annual conference of Japanese Society for Artificial Intelligence, 06/2003

- Improvement of Search Capability of Decision Tree – Graph-Based Induction

Best paper award of Journal of Computer Aided Chemistry, 06/2002

- Applying the Apriori-based Graph Mining Method to Mutagenesis Data Analysis,

Best paper award of Japanese Society for Artificial Intelligence, 05/2001

- Scientific Law Discovery based on Sacale Type Constraint

Outstanding achievement award of Japanese Society for Artificial Intelligence, 06/2000

Distinguished paper award for the annual conference of Japanese Society for Artificial Intelligence, 12/1999

- Scientific Law Discovery from Observed Data and its Application to Socio-psychology

Distinguished paper award for the annual conference of Japanese Society for Artificial Intelligence, 12/1998

- The extended SDS: A Model of Scientific Discovery for Simultaneous Equation Systems

Best paper award of the special interest group of Japanese Society for Artificial Intelligence, 12/1997

- A method of discovering the first principle based on scale-based reasoning and its implementation

Distinguished paper award for the annual conference of Japanese Society for Artificial Intelligence, 06/1997

- A data-driven method to discover the first principle of complex systems

Best paper award of Japanese Society for Artificial Intelligence, 07/1993

- Concept Learning from Inference Pattern

Distinguished paper award for the annual conference of Japanese Society for Artificial Intelligence, 06/1991

- Concept Learning from Inference Pattern

Best paper award of Japanese Society for Artificial Intelligence, 07/1990

- Frustration-Based Learning in Auxiliary-Line Problems in Elementary Geometry

Best paper award of Atomic Energy Society of Japan, 03/1984

- Method for plant operation guidance by knowledge engineering technique

Best paper award of Atomic Energy Society of Japan, 03/1977

- Optimization of refueling schedule for light water reactors

Encouragement award for young scientists of Atomic Energy Society of Japan, 03/1970

- Burnup optimization of nuclear power reactor

5. Membership of Academic Society

- The Institute of Electrical and Electronics Engineering (Computer Society) from 1990 to 2007
- Japanese Society of Artificial intelligence since 1987 (Fellow, 2009)
- Japan Society of Software Science and Technology from 1986 to 2008
- Cognitive Science Society of Japan from 1986 to 2008
- American Association for Artificial Intelligence since 1985 to 2010
- Information Processing Society of Japan from 1982 to 2008
- Atomic Energy Society of Japan from 1965 to 1991
- American Nuclear Society from 1972 to 1990

6. Research Funds (since 1995 at Osaka University)

1. Japanese Ministry of Education, Culture, Sports, Science and Technology

- | | | |
|--|-----------|-------------|
| • Feature construction for structured data | 2004-2005 | 13,800K yen |
| • Data mining for inter-nanosience | 2002-2005 | 27,400K yen |
| • Active mining from structured data | 2001-2004 | 67,610K yen |
| • Implementation of active mining environ-
ment | 2001-2004 | 38,400K yen |
| • Knowledge acquisition system for unstable
environmental | 2001-2003 | 13,600K yen |
| • Structure activity mining of chemical com-
pounds | 2000-2002 | 3,000K yen |

- Integrated learning environment for data mining 1999-2001 8,700K yen
- Constructive induction of meaningful features 1999-2000 2,100K yen
- Knowledge discovery from large databases 1998-2000 11,500K yen
- User-adaptive interface that learns user's preference 1997-1999 12,300K yen
- Incremental development of consistent knowledge bases 1997-1998 1,900K yen

2. Research Funds from AOARD (since 1995 at Osaka University)

- Improvement of Apriori-based Graph Mining Method 2002-2003 2,000K yen
- Integrated Knowledge Acquisition from both human expert and accumulated data 2003-2004 2,000K yen

3. Industry

- 2004 1,000K yen
- 2003 780K yen
- 2002 500K yen
- 2001 1,500K yen
- 2000 1,300K yen
- 1999 800K yen
- 1998 1,900K yen
- 1997 3,600K yen

4. Research Experience

05/2018 - Professor Emeritus, Osaka University,
 Present Guest Professor, the Institute of Scientific and Industrial Research,
 Osaka University
 Adjunct Professor, School of Computing and Information Systems,
 University of Tasmania (03/2013 - 08/2018)

- Social network analysis (Social dynamics, Critical link identification, Change detection, Social bias, Social trust, etc.)
- Continuing Data Mining and Machine Learning Research
- Working as a collaborator for overseas projects in the area of computational intelligence

05/2006 - Scientific Advisor
04/2018 Asian Office of Areospace Research and Development
Air Force Office of Scientific Research
US Air Force Research Laboratory
7-23-17 Roppongi, Minato-ku, Tokyo 106-0032, Japan
Professor Emeritus, Osaka University,
Guest Professor, the Institute of Scientific and Industrial Research,
Osaka University
Visiting Professor, School of Computing, The University of New
South Wales (03/2008 - 02/2012)
Adjunct Professor, School of Computing and Information Systems,
University of Tasmania (03/2013 - 08/2018)

- Funding and Managing projects as an international program officer in the area of computational intelligence in Asian countries, in particular in the area of machine learning, data mining and artificial intelligence.
- Continuing Data Mining and Machine Learning Research
- Social network analysis (Information diffusion, Opinion formation, Extaction of influential nodes, etc.)

01/1996 - Professor
03/2006 Division of Intelligent Systems Science
Osaka University
8-1 Mihogaoka, Ibaraki, Osaka 567, Japan

- Derivation of association rules for data with numerical attributes using density-based clustering without explicit discretization
- Discovery of time dependent law equations from numerical data by scale type tracking method
- Implementation of active mining framework and its application to medical data and chemical compound data
- Feature constriction by meta-learning
- Unified approach for information retrieval with various data formats (both text and image) based on invariant mathematical transformation using sliding windows of bit sequences
- Integration of incremental Knowledge acquisition from human expert and incremental machine learning from data in unstable environment within the framework of Ripple Down Rule method
- Active knowledge acquisition by generating new cases in Ripple Down Rule method
- Induction of decision tree for graph structured data with feature construction by graph-based induction (DT-GBI, DT-CIGBI)

- Efficient approximate method of extracting typical patterns from graph structured data by graph based induction (GBI) and its improvement (B-GBI, CI-GBI)
- Complete search for extracting frequent patterns from graph structured data by Apriori-based graph mining (AGM)
- Discovery of first principle equations from numerical data
- Discretization of numeric data by Akaike's information criterion (AIC) and minimum description length (MDL)
- Adaptive user Interface that improves operability by inducing user's behavioral characteristics
- Reduction of association rules by maximum inference using Apriori algorithm

08/1994 - Senior Chief Research Scientist and Research Group Leader
 12/1995 Advanced Research Laboratory
 Hitachi, Ltd.
 Hatoyama, Saitama, Japan

- Information filtering by probabilistic clustering method
- Feasibility study of user adaptive interface

09/1987 - Chief Research Scientist and Research Group Leader
 07/1994 Advanced Research Laboratory
 Hitachi, Ltd.
 Hatoyama, Saitama, Japan

- Large memory personal workstation (Learning machine as a life long partner)
- Automatic configuration of hidden Markov modeling by iterative link deletion algorithm and application to DNA classification problem.
- Learning search control knowledge by perceptual chunking (visual pattern) and application to solving elementary geometry problems
- Integration of deductive and inductive learning by typical pattern extraction
- Effective use of diagrams in visual reasoning (diagrammatic reasoning) and verification by protocol analysis
- Compositional modeling by explicitly stating the relevancy claims and meta-reasoning over these claims (i.e. relevance reasoning)
- Interpretation of a metaphorical sentence by representing verbs using a limited set of primitives and taking analogical mapping from which to learn a new meaning of verbs.
- Development of a meta-interview system, a shell to generate a task-dependent interview system which elicits knowledge by detecting deficiency while solving a

problem.

- Knowledge compilation based on hierarchical approximations and abstractions

04/1985 - Senior Research Scientist and Research Group Leader
08/1987 Advanced Research Laboratory
Hitachi, Ltd.

- Hierarchical qualitative reasoning and its application to radio circuit (an attempt to device understanding by functional reasoning)
- Validity proof of definite clause based on inductionless induction

04/1982 - Senior Researcher and Research Unit Leader
03/1985 Energy Research Laboratory
Hitachi, Ltd.
Hitachi, Ibaraki

- Expert system for boiling water reactor (BWR) power plant operator guidance by model based reasoning
- Knowledge representation and inference mechanism for expert system shell based on predicate calculus and meta-level reasoning
- Inference mechanism for real time control and application to start up control of a nuclear power plant
- Expert system for a transformer plant layout by combining case-based reasoning and heuristic reasoning.

10/1981 - Teknowledge, Inc.
03/1982 Palo Alto, CA, USA

- An architecture of expert system for BWR operator guidance

08/1980 - Senior Researcher
09/1981 Energy Research Laboratory
Hitachi, Ltd.

- Strategic planning for research and development

04/1978 - Senior Researcher and Research Unit Leader
07/1980 Energy Research Laboratory
Hitachi, Ltd.

08/1976 - Senior Researcher and Research Unit Leader
03/1978 Atomic Energy Research Laboratory
Hitachi, Ltd.
Ozenji, Kawasaki

- Improvement of core performance of existing BWR by backfitting
- On-line monitoring system of core performance of BWR by use of nuclear-thermal-hydraulic coupled model and in-core monitoring measurement
- Three dimensional neutronics model for transient analysis of BWR by an improved quasi static approximation
- Verification of in-core fuel management system for BWR
- Operator guidance for load following of BWR

09/1973 - Researcher
 07/1976 Atomic Energy Research Laboratory
 Hitachi, Ltd.

- On-line prediction system of core performance for BWR
- Feasibility study of management information system for BWR
- Program systems for in-core fuel management of BWR

09/1972 -Dea Visiting Scholar
 08/1973 Department of Nuclear Engineering
 Purdue University, Indiana, USA

- Optimization of in core fuel management of BWR

04/1971 - Researcher
 08/1972 Atomic Energy Research Laboratory
 Hitachi, Ltd.

04/1967 - Researcher
 03/1971 Central Research Laboratory
 Hitachi, Ltd.
 Kokubunji, Tokyo

- Theory of optimal control rod programming for in-core fuel management of BWR
- Conceptual Design of Advanced Thermal Reactor
- Cascade theory of uranium enrichment system using continuous stage model approximation

5. Academic activities

1. Advisory Board

- 04/2003 - 10/2018 Technical Committee of Web Intelligence Consortium
- 04/2003 - 05/2008 Scientific advisory board of Alberta Ingenuity Centre for Machine Learning

- 04/2003 - 03/2006 Academic advisory board of Japan Institute of Science and Technology
 - 04/2004 - 03/2006 Academic advisory board of the Institute of Statistical Mathematics
2. Board of Trustee
- 01/2005 - 12/2006 Board of Auditor of Japanese Cognitive Science Society
 - 06/1995 - 05/1999 Board of trustee of Japanese Cognitive Science Society
 - 06/1990 - 05/1992 Board of trustee of Japanese Society for Artificial Intelligence
 - 05/1987 - 04/1989 Board of trustee of Japan Society of Software Science and Technology
3. Editorial Board
- 04/2015 - 07/2022 Editorial board of International Journal of Data Science and Analytics (Springer)
 - 10/2009 - 03/2012 Advisory board of ACM Transactions on Intelligent Systems and Technology (ACM TIST)
 - 08/2002 - 12/2005 Editorial board of the AI Handbook (Japanese Society of Artificial Intelligence)
 - 04/2001 - 05/2003 Advisory board of the Handbook of Data Mining (Lawrence Erlbaum Associates)
 - 04/2001 - 03/2014 Editorial board of Intelligent Data Analysis: An International Journal (IOS Press)
 - 01/1998 - 12/2004 Editorial board of Knowledge and Information Systems: An International Journal (Springer Verlag)
 - 03/1997 - 12/2002 Editorial board of the Handbook of Knowledge Discovery and Data Mining (Oxford University Press)
 - 11/1994 - 03/2006 Editorial board of International Journal of Human Computer Studies (Elsevier)
 - 06/1993 - 04/1997 Editorial board of Japanese Cognitive Science Society
 - 08/1991 - 05/2005 Editorial board of Advanced Engineering Informatics (Elsevier)
 - 01/1991 - 01/1993 Editorial board of Computer Science (Shujunsha)
 - 02/1990 - 02/1994 Editorial board of IEEE Expert
 - 04/1989 - 11/1994 Editorial board of the Journal of Knowledge Acquisition (Academic Press)
 - 04/1987 - 03/1991 Editorial board of Japanese Society for Artificial Intelligence

4. Steering Committee Members

- 11/2018 - Present Discovery Science Conference, Honorary member
- 08/2014 - 04/2018 International Conference on Informatics for Human Brain, Behavior and Health
- 12/2013 - Present International Conference on Data Science and Advanced Analytics
- 05/2012 - Present Asian Conference on Machine Learning, Honorary member
- 10/2009 - 05/2012 Asian Conference on Machine Learning, Chair
- 11/2006 - 11/2018 Discovery Science Conference
- 05/2006 - Present Pacific-Asia Conference on Knowledge Discovery & Data Mining, Life long member
- 04/2003 - 10/2018 WI (Web Intelligence) & IAT (Intelligent Agent Technology)
- 11/2002 - 10/2006 Discovery Science Conference, Chair
- 11/2002 - 10/2006 Algorithmic Learning Theory Conference
- 05/2003 - 04/2006 Pacific-Asia Conference on Knowledge Discovery & Data Mining, Chair
- 05/2001 - 04/2003 Pacific-Asia Conference on Knowledge Discovery & Data Mining, Co-chiar
- 04/1998 - 04/2001 Pacific-Asia Conference on Knowledge Discovery & Data Mining
- 09/2004 - Present Pacific Rim International Conference on Artificial Intelligence, Honorary member
- 08/1996 - 08/2004 Pacific Rim International Conference on Artificial Intelligence

5. Program Chairs and Organizers

- Honorary Co-Chair of the 2023 Principle and Practice of Data and Knowledge Acquisition Workshop: PKAW2023 (2023)
- Honorary Co-Chair of the 2022 Principle and Practice of Data and Knowledge Acquisition Workshop: PKAW2022 (2022)
- Honorary Co-Chair of the 2020 Principle and Practice of Data and Knowledge Acquisition Workshop: PKAW2020 (2021)
- Honorary Conference Co-Chair of the Twelveth Asian Conference on Machine Learning: ACML2020 (2020)
- Honorary Co-Chair of the 2019 Pacific Rim Knowledge Acquisition Workshop: PKAW2019 (2019)

- Honorary Conference Co-chair of the 22nd Pacific-Asia Conference on Knowledge Discovery & Data Mining: PAKDD19 (2019)
- Honorary Conference Co-Chair of the Tenth Asian Conference on Machine Learning: ACML2018 (2018)
- Honorary Co-Chair of the 2018 Pacific Rim Knowledge Acquisition Workshop: PKAW2018 (2018)
- General Co-Chair of the 2017 IEEE International Conference on Data Science and Advanced Analytics: DSAA2017 (2017)
- General Co-Chair of the Third Asian Conference on Defense Technology: ACDT2017 (2017)
- Honorary Conference Co-Chair of the Eleventh International Conference on Knowledge, Information and Creativity Support Systems: KICSS16 (2016)
- Honorary Conference Co-Chair of the 14th Pacific Rim International Conference on Artificial Intelligence: PRICAI2016 (2016)
- Honorary Co-Chair of the 2016 Pacific Rim Knowledge Acquisition Workshop: PKAW2016 (2016)
- General Co-Chair of the Second Asian Conference on Defense Technology: ACDT2016 (2016)
- Honorary Conference Co-Chair of the Tenth International Conference on Knowledge, Information and Creativity Support Systems: KICSS15 (2015)
- Conference Co-chair of the First Asian Conference on Defence Technology: ACDT15 (2015)
- Conference Co-chair of the Nineteenth Pacific-Asia Conference on Knowledge Discovery & Data Mining: PAKDD15 (2015)
- Conference Co-Chair of the 2014 International Conference on Data Science and Advanced Analytics (DSAA 2014)
- Program Co-chair of the 2nd International Conference on Rough Sets and Intelligent Systems Paradigms (RSEISP 2014)
- Honorary Conference chair of the Eighteenth Pacific-Asia Conference on Knowledge Discovery & Data Mining: PAKDD14 (2014)
- Conference Co-Chair of the Ninth International Conference on Advanced Data Mining and Applications (ADMA 2013)
- Co-organizer of the Fourth International Workshop on Behavior and Social Informatics and Computing: BSIC2013 in conjunction with IJCAI2013 (2013)
- Co-organizer of the Fourth International Workshop on Behavior and Social Informatics: BI2013 in conjunction with PAKDD2013 (2013)
- Conference Co-Chair of the 17th Pacific-Asia Conference on Knowledge Discovery and Data Mining: PAKDD2013 (2013)

- Co-organizer of the Third International Workshop on Behavior Informatics: BI2012 in conjunction with WI-IAT2012 (2012)
- Honary Co-Chair of The 12th International Workshop on Knowledge Management and Acquisition for Intelligent Systems: PKAW2012 (2012)
- Co-organizer of the Second International Workshop on Behavior Informatics: BI2011 in conjunction with PAKDD2011 (2011)
- Conference Chair of the Fifth International Conference on Knowledge, Information and Creativity Support Systems: KICSS 2010 (2010)
- Best Paper Award Chair of the European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases: ECML/PKDD2010 (2010)
- Honary Co-Chair of The 11th International Workshop on Knowledge Management and Acquisition for Smart Systems and Services: PKAW2010 (2010)
- Co-organizer of the First International Workshop on Behavior Informatics: BI2010 in conjunction with PAKDD2010 (2010)
- Co-organizer of the Fourth International Workshop on Feature Selection and Data Mining: FSDM2010 (2010)
- Conference chair of the First Asisan Conference on Machine Learning (ACML09)
- Honorary Conference chair of the Thirteenth Pacific-Asia Conference on Knowledge Discovery & Data Mining: PAKDD09 (2009)
- Conference chair of the Tenth Pacific Rim International Conference on Artificial Intelligence (PRICAI2008)
- Honorary Conference chair of the Eleventh Pacific-Asia Conference on Knowledge Discovery & Data Mining: PAKDD07 (2007)
- Conference chair of the Eighth International Conference on Discovery Science (DS2005).
- Conference Chair of the Ninth Pacific-Asia Conference on Knowledge Discovery & Data Mining: PAKDD05 (2005)
- Co-organizer of the International Workshop on Active Mining: AM-2004, 2004
- Honoyrary Chair of the Fifth Pacific Rim Knowledge Acquisition for Knowledge-Based Systems Workshop: PKAW04, 2004
- Co-organizer of the International Workshop on Active Mining: AM-2003, 2003
- Organizer of the International Workshop on Active Mining: AM-2002, 2002
- Co-organizer of the Fourth Pacific Rim Knowledge Acquisition for Knowledge-Based Systems Workshop: PKAW02, 2002
- Co-organizer of the First International Workshop on Data Mining Lessons Learned (DMLL-2002), Workshop at ICML2002, Sydney, 8-12 July, 2002
- Organizer of the panel “Innovative Projects for Intelligent Systems in the New

Century” for 13th International Symposium on Methodologies for Intelligent Systems: ISMIS02, 2002

- Co-organizer of the Third Pacific Rim Knowledge Acquisition for Knowledge-Based Systems Workshop: PKAW00, 2000
- Co-Organizer of the Fourth Pacific-Asia Conference on Knowledge Discovery & Data Mining: PAKDD2000, 2000
- Program chair of the First International Workshop on Discovery Science: DS98, 1998
- Co-organizer of the Second Pacific Rim Knowledge Acquisition for Knowledge-Based Systems Workshop: PKAW98, 1998
- Co-program chair of the Fifth Pacific Rim International Conference on Artificial Intelligence: PRICAI98, 1998
- Co-program chair of the First Pacific-Asia Conference on Knowledge Discovery & Data Mining: PAKDD97, 1997
- Co-organizer of the First Pacific Rim Knowledge Acquisition for Knowledge-Based Systems Workshop: PKAW96, 1996
- Co-organizer of the Third Japanese Knowledge Acquisition for Knowledge-Based Systems Workshop: JKAW94, 1994
- Co-organizer of International Workshop on Machine Intelligence 1995: MI95, 1993
- Co-organizer of International Workshop on Machine Intelligence 1993: MI93, 1993
- Co-organizer of the Second Japanese Knowledge Acquisition for Knowledge-Based Systems Workshop: JKAW92, 1992
- Co-organizer of the First Japanese Knowledge Acquisition for Knowledge-Based Systems Workshop: JKAW90, 1990
- Vice Chairman of the 5th Annual Meeting of Japanese Society for Artificial Intelligence, 1990

6. Program Committee

- Technical Committee of The 3rd International Conference on Machine Learning and Soft Computing (ICMLSC2019)
- Program Committee of the 6th International Workshop on New Frontiers in Mining Complex Patterns (NFMCP2017)
- Program Committee of the 23rd International Symposium on Methodologies for Intelligence Systems (ISMIS2017)
- Program Committee of the 14th International Workshop on Knowledge Management and Acquisition for Intelligent Systems (PKAW2016)

- Program Committee of the 6th International Conference on Pattern Recognition and Machine Intelligence (PReMI 2015)
- Program Committee of International Conference on Social Computing, Behavioral-Cultural Modeling, and Prediction (SBP2013)
- Program Committee of the 12th International Workshop on Knowledge Management and Acquisition for Intelligent Systems (PKAW2012)
- Program Committee of International Conference on Social Computing, Behavioral-Cultural Modeling, and Prediction (SBP2012)
- Program Committee of IJCAI2011 Workshop on Link Mining in Heterogeneous Information Networks (HINA2011)
- Program Committee of International Conference on Social Computing, Behavioral-Cultural Modeling, and Prediction (SBP2011)
- Program Committee of the 19th International Symposium on Methodologies for Intelligent Systems (ISMIS2011)
- Program Committee of the 11th International Workshop on Knowledge Management and Acquisition for Smart Systems and Services (PKAW2010)
- Program Committee of the Third IEEE/ACM International Conference on Cyber, Physical and Social Computing (CPSCoM2010)
- Program Committee of the Thirteenth International Conference on Discovery Science (DS2010)
- Program Committee of the 2010 International Conference on Social Computing, Behavioral Modeling, and Prediction (SBP2010)
- Program Committee of the Twelfth International Conference on Discovery Science (DS2009)
- Program Committee of the 2009 IEEE International on Social Computing, Services and Intelligence (SocialCom-09) (2009)
- Program Committee of the Second International Workshop on Social Computing, Behavioral Modeling, and Prediction, Phoenix, Arizona (2009)
- Program Committee of the 2008 Pacific Rim Knowledge Acquisition for Knowledge-Based Systems Workshop: PKAW08 (2008)
- Program Committee of the International workshop on New challenges for Feature Selection in Data Mining and Knowledge Discovery (FSDM08)
- Program Committee of Brazilian Symposium on Artificial Intelligence (SBIA 2008)
- Program Committee of the First International Workshop on Social Computing, Behavioral Modeling, and Prediction, Sedona, Arizona (2008)
- Program Committee (Area chair) of the 12th Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD'08) (2008)

- Program Committee of the 18th European Conference on Machine Learning (ECML) and the 11th European Conference on Principles and Practice of Knowledge Discovery in Databases (PKDD) (2007)
- Program Committee of the 11th Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD'07) (2007)
- Program Committee of the Third Workshop on Mining Complex Data (MCD) at the IEEE International Conference on Data Mining (ICDM'07) (2007)
- Program Committee of the Second Workshop on Mining Complex Data (MCD) at the IEEE International Conference on Data Mining (ICDM'06) (2006)
- Program Committee of the Sixth IEEE International Conference on Data Mining (ICDM'06) (2006)
- Program Committee (Seniro member) of the 19th Australian Joint Conference on Artificial Intelligence (AI2006) (2006)
- Program committee of the 16th International Symposium on Methodologies for Intelligent Systems ISMIS06 (2006)
- Program Committee of International Workshop on Feature Selection for Data Mining Interfacing Machine Learning with Statistics: FSDM2006 (2006)
- Senior Program Committee the 23rd International Conference on Machine Learning (ICML-2006) (2006)
- Program Committee of the Ninth Pacific-Asia Conference on Knowledge Discovery & Data Mining: PAKDD06 (2006)
- Program Committee of the workshop on Foundation of Semantic Oriented Data and Web Mining (2005)
- Program Committee of the 4th Workshop on Multi-Relational Data Mining (MRDM-2005)
- Program Committee of the 15th International Conference on Inductive Logic Programming (ILP2005)
- Program Committee of the Fifth IEEE International Conference on Data Mining (ICDM2005)
- Program Committee of the Eleventh ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD2005)
- Program Committee of the 10th International Conference on Rough Sets, Fuzzy Sets, Data Mining, and Granular Computing (RSFDGrC2005)
- Program Committee of the 16th European Conference on Machine Learning ECML (Area chair) (2005)
- Program Committee of the 9th European Conference on Principles and Practice of Knowledge Discovery in Databases PKDD (Area chair) (2005)
- Program Committee (Area chair) of the 22nd International Conference on Machine Learning (ICML-2005) (2005)

- Program Committee for the Symposium on Abstraction, Reformulation and Approximation in 2005 (SARA 2005)
- Program Committee of the Ninth Pacific-Asia Conference on Knowledge Discovery & Data Mining: PAKDD05 (2005)
- Program Committee of International Workshop on Feature Selection for Data Mining Interfacing Machine Learning with Statistics: FSDM2005 (2005)
- Program Committee of the Fourth IEEE International Conference of Data Mining (ICDM 2004)
- Program Committee for Foundation of Data Mining Workshop, colocated workshop of ICDM-2004, November, Brighton, UK.
- Program Committee of the Second International Workshop on Mining Graphs, Trees and Sequences (MGTS-2004), 15th European Conference on Machine Learning (ECML'04) and 8th European Conference on Principles and Practice of Knowledge Discovery in Databases
- Program Committee for Multi Relational Data Mining (MRDM-2004), colocated workshop of SIGKDD-2004, Workshop at SIGKDD2004, August, Seattle, USA.
- Program Committee of International Workshop on Knowledge Discovery in BioMedicine (KDbM-04).
- Program Committee of BASYS'04, 6th IFIP International Conference on Information Technology for BALANCED AUTOMATION SYSTEMS in Manufacturing and Services, Track D: Machine learning and data mining in industry
- Program Committee of 14th International Conference on Knowledge Engineering and Management - EKAW 2004
- Program Committee of the 15th European Conference on Machine Learning ECML
- Program Committee of the 8th European Conference on Principles and Practice of Knowledge Discovery in Databases PKDD
- Program Committee of the Seventh International Conference on Discovery Science (DS2004).
- Program Committee of the Sixteenth European Conference on Artificial Intelligence, ECAI2004, 2004
- Program Committee of the Fifth Pacific Rim Knowledge Acquisition for Knowledge-Based Systems Workshop: PKAW04, 2004
- Program Committee of the Eighth Pacific-Asia Conference on Knowledge Discovery & Data Mining: PAKDD04 (2004)
- Program Committee of the First International Workshop on Mining Graphs, Trees and Sequences (MGTS-2003), 14th European Conference on Machine Learning (ECML'03) and 7th European Conference on Principles and Practice of Knowledge Discovery in Databases

- Program Committee of the Sixth International Conference on Discovery Science (DS2003).
- Program Committee for Multi Relational Data Mining (MRDM-2003), collocated workshop of KDD-2003, Workshop at KDD2003, August, Washington DC, USA.
- Program Committee of the 2003 International Workshop on Data Mining for Software Engineering and Knowledge Engineering (DMSK'03)
- Program Committee for the Third IEEE International Conference on Data Mining (ICDM '03)
- Program Committee of the 14th European Conference on Machine Learning (ECML-2003)
- Program Committee of the 7th European Conference on Principles and Practice of Knowledge Discovery in Databases (PKDD-2003)
- Program Committee of the Fourteenth International Symposium for Methodology of Intelligent Systems: ISMIS2003, 2003
- Program Committee of the International Workshop on Foundation of Data Mining and Discovery, 2003
- Programm Committee of the Seventh Pacific-Asia Conference on Knowledge Discovery & Data Mining: PAKDD03, 2003
- Program Committee for Multi Relational Data Mining (MRDM-2002), collocated workshop of KDD-2002, Workshop at KDD2002, July 23 - 26, 2002, Edmonton, Alberta, Canada
- Program Committee of the 6th European Conference on Principles and Practice of Knowledge Discovery in Databases (PKDD'02), August 19-23, 2002, Helsinki
- Program Committee of the 13th European Conference on Machine Learning (ECML'02), August 19-23, 2002, Helsinki
- Program Committee of ICIIP'02, the International Conference on Intelligent Information Processing, 22-25 September 2002, Beijing
- Program Committee of ICML'02, the Nineteenth International Conference on Machine Learning (ICML-2002), 8-12 July 2002, The University of New South Wales, Sydney, Australia
- Program Committee of the Fifth International Conference on Discovery Science (DS2002), December 2002
- Program Committee of EKAW'02, the 13th European International Conference on Knowledge Engineering and Knowledge Management, Madrid (Spain), October 1-4 , 2002.
- Program Committee of the Symposium on Abstraction, Reformulation and Approximation in 2002 (SARA-2002), Kananaskis, Alberta, Canada
- Programm Committee of the Sixth Pacific-Asia Conference on Knowledge Dis-

covery & Data Mining: PAKDD02, 2002

- Program Committee of the IJCAI-2001 Workshop on Wrappers for Performance Enhancement in Knowledge Discovery in Databases (KDD), 04 Aug 2001, Seattle, Washington, USA
- Program Committee of the Fourth International Conference on Discovery Science (DS2001), November 2001.
- International Committee of the Third International Workshop on Strategic Knowledge and Concept Formation (SKCF'01) to be held in Sydney, 17-19 December 2001.
- Program Committee of the 12th European Conference on Machine Learning (ECML'01), 2001
- Program Committee of the 5th European Conference on Principles and Practice of Knowledge Discovery in Databases (PKDD'01), 2001
- Program Committee of the First IEEE International Conference on Data Mining (ICDM '01), 2001
- Programm Committee of the Fifth Pacific-Asia Conference on Knowledge Discovery & Data Mining: PAKDD01, 2001
- Advisory Board of the Second Asia-Pacific Conference on Intelligent Agent Technology (IAT'2001), 2001
- Program Committee of the Third International Conference on Discovery Science (DS2000), 2000
- Program Committee (area chair) of the Seventeenth International Conference on Machine Learning, 2000
- Program Committee of the 12th International Conference on Knowledge Engineering and Knowledge Management (EKAW2000), 2000
- Program Committee of the Symposium on Abstraction, Reformulation and Approximation, (SARA2000), 2000
- Program Committee of the Sixth International Workshop on Multistrategy Learning, 2000
- Programm Committee of the Second Workshop on Strategic Knowledge and Concept Formation, 1999
- Program Committee of the Second International Conference on Discovery Science (DS1999), 1999
- Program Committee of Australian Applications of AI Symposium, December 1999
- Program Committee of the IJCAI99 workshop on Learning about Users, Stockholm, Sweden, July, 1999
- Advisory Committee of the Second International Conference on Cognitive Science Tokyo, Japan July 27-30, 1999

- Program Committee of The Seventh International Workshop on Rough Sets, Fuzzy Sets, Data Mining, and Granular-Soft Computing (RSFDGrC'99), November 9-11, 1999 in Yamaguchi Resort Center, Ube, Yamaguchi, Japan.
- Programm Committee of the Third Pacific-Asia Conference on Knowledge Discovery & Data Mining: PAKDD99, 1999
- Program Committee of International Symposium on Intelligent Data Engineering and Learning (IDEAL) to be held in Hong Kong, October 14-16, 1998
- Program Committee of the Sixth International Workshop on Rough Sets, Data Mining and Granular Computing, 1998
- Program Committee of the Fourth International Workshop on Multistrategy Learning, Desenzano del Garda, Italy, 1998
- Program Committee of Symposium on Abstraction, Reformulation and Approximation: SARA-98, 1998
- Program Committee of The Ninth Workshop on Algorithmic Learning Theory: ALT98, 1998
- Program Committee of The Australian Joint Conference on Artificial Intelligence (AI98), 1998
- Programm Committee of the Second Pacific-Asia Conference on Knowledge Discovery & Data Mining: PAKDD98, 1998
- Programm Committee of the 1997 IEEE Knowledge and Data Engineering Exchange Workshop (KDEX-97), 1997
- Programm Committee of the Workshop on Strategic Knowledge and Concept Formation, 1997
- Program committee of the Eleventh Banff Knowledge Acquisition for Knowledge-Based Systems Workshop: KAW97, 1997
- Program committee of the Tenth European Knowledge Acquisition for Knowledge-Based Systems Workshop: EKAW97, 1997
- Programm Committee of the Workshop on Problem-solving Methods for Knowledge-based Systems in Connection with the Fifteenth International Joint Conference on Artificial Intelligence (IJCAI-97), 1997
- Program Committee of The Australian Joint Conference on Artificial Intelligence (AI97), 1997
- Program Committee of The Eighth Workshop on Algorithmic Learning Theory: ALT97, 1997
- Program Committee of The Joint Pacific Asian Conference on Expert Systems/Singapore International Conference on Intelligent Systems (PACES/SPICIS97), 1997
- Program Committee of The Fourth Pacific Rim International Conference on artificial Intelligence (PRICAI96), 1996

- Program committee of the Ninth European Knowledge Acquisition for Knowledge-Based Systems Workshop: EKAW96, 1996
- Program committee of the Tenth Banff Knowledge Acquisition for Knowledge-Based Systems Workshop: KAW96, 1996
- Program Committee of The Thirteenth National Conference on Artificial Intelligence (AAAI96), 1996
- Program Committee of The Fourth International Workshop on Rough Sets, Fuzzy Sets and Machine Discovery (RSFM'96), 1996
- Program Committee of The Workshop on Machine Learning Meets Human Computer Interaction, 1996
- Program Committee of The Third World Congress on Expert Systems, 1996;
- Program Committee of Symposium on Abstraction, Reformulation, and Approximations (SARA-95), 1995
- Program Committee of Pacific-Asian Conference on Expert Systems (PACES95), 1995
- Program committee of the Ninth Banff Knowledge Acquisition for Knowledge-Based Systems Workshop: KAW95, 1995
- Program Committee of The Fifth International Conference on Human-Machine Interaction and Artificial Intelligence in Aerospace (HMI-AI-AS'95), 1995
- Program Committee of The Eighth International Conference on Industrial & Engineering Applications of Artificial Intelligence & Expert Systems, 1995
- Program Committee of The Fifth Workshop on Algorithmic Learning Theory: ALT94, 1994
- Program Committee of The Eleventh International Conference on Machine Learning: ICML94, 1994
- Program and organizing committee of the Second Japan/Korea Joint Conference on Expert Systems: JKJCES94, 1994
- Program committee of the Eighth European Knowledge Acquisition for Knowledge-Based Systems Workshop: EKAW94, 1994
- Program committee of the Eighth Banff Knowledge Acquisition for Knowledge-Based Systems Workshop: KAW94, 1994
- Program Committee of The Fourth Workshop on Algorithmic Learning Theory: ALT93, 1993
- Program committee of the Seventh European Knowledge Acquisition for Knowledge-Based Systems Workshop: EKAW93, 1993
- Program committee of the First Korea/Japan Joint Conference on Expert Systems: KJJCES93, 1993
- Program Committee of The Third Workshop on Algorithmic Learning Theory:

ALT92, 1992

- Program Committee of the Second Pacific Rim International Conference on Artificial Intelligence: PRICAI92, 1992
- Program committee of the Seventh Banff Knowledge Acquisition for Knowledge-Based Systems Workshop: KAW92, 1992
- Program committee of the Sixth European Knowledge Acquisition for Knowledge-Based Systems Workshop: EKAW92, 1992
- Program Committee of The Second International Conference on Fifth Generation Computer Systems: FGCS92, 1992
- Program Committee of The Second Workshop on Algorithmic Learning Theory: ALT91, 1991
- Program committee of the Sixth Banff Knowledge Acquisition for Knowledge-Based Systems Workshop: KAW91, 1991
- Program committee of the Fifth European Knowledge Acquisition for Knowledge-Based Systems Workshop: EKAW91, 1991
- Program Committee of International Conference on Knowledge Modeling and Expertise Transfer: KMET91, 1991
- Program Committee of the First Pacific Rim International Conference on Artificial Intelligence: PRICAI90, 1990
- Local Arrangements Committee of First International Workshop on Algorithmic Learning Theory: ALT90, 1990
- Program Committee of the 6th Conference of Japan Society of Software Science, 1989

7. SIGs and Working Groups

- 04/1993 - 08/1995 Working group of Curriculum Systematization of Knowledge Information Processing Engineering for University Education
- 04/1990 - present SIG-KBS (Knowledge Based Systems) of Japanese Society for Artificial Intelligence, Chair from 04/1994 to 03/1996
- 04/1990 - present SIG-FAI (Fundamental AI) of Japanese Society for Artificial Intelligence, Secretary from 4/1990 to 3/1992, Chair from 4/1998 to 3/2000
- 01/1989 - 04/1996 Working group on AI application to nuclear plant of Japan Atomic Energy Institute
- 04/1988 - 03/1989 ICOT working group on knowledge base system architecture
- 04/1988 - 03/1989 ICOT working group on knowledge acquisition for design problem

- 04/1985 - 03/1990 ICOT working group on fundamental AI
- 04/1985 - 03/1990 ICOT working group on expert system of power generating plant
- 04/1984 - 03/1991 SIG for artificial intelligence and knowledge engineering of The Institute of Electronics, Information and Communication Engineers
- 04/1984 - 03/1990 SIG for knowledge engineering and artificial intelligence of Information Processing Society of Japan
- 04/1971 - 10/1976 SIG for nuclear system technology of Atomic Energy Society of Japan
- 04/1969 - 03/1971 SIG for optimization technology of nuclear system of Atomic Energy Society of Japan

8. External Thesis Reviewer

- 037/2007 - 05/2007 PhD Thesis reviewer of Megan Margaret Vazey, Macquarie University
- 07/2006 - 05/2006 PhD Thesis reviewer of Richard Peter Dazeley, University of Tasmania
- 12/2005 - 03/2006 PhD Thesis reviewer of Le Hoang Minh, Japan Advanced Institute of Science and Technology
- 12/2005 - 03/2006 PhD Thesis reviewer of Ngyen Dung Duc, Japan Advanced Institute of Science and Technology
- 06/2005 - 09/2005 PhD Thesis reviewer of Le Si Quang, Japan Advanced Institute of Science and Technology
- 06/2003 - 09/2003 PhD Thesis reviewer of Saori Kawasaki, Japan Advanced Institute of Science and Technology
- 05/2003 - 08/2003 PhD Thesis reviewer of Kanh Hyuk Lee, University of Sydney
- 05/2001 - 08/2001 PhD Thesis reviewer of Ashesh Mahidadia, University of New South Wales
- 10/2000 - 03/2001 PhD Thesis reviewer of Nguyen Dung Trong, Japan Advanced Institute of Science and Technology
- 03/2000 - 06/2000 PhD Thesis reviewer of Ghassan Beydoun, University of New South Wales
- 05/1998 - 08/1998 PhD Thesis reviewer of Debbie Richards, University of New South Wales

9. Invited Talks at Major Conferences and Workshops

- “Learning Information Diffusion Models from Observation and Its Application to Behavior Analysis”, The 3rd International Conference on Social Informatics (2011)

- “What can We Discover from Graph-Structured Data? - A data mining perspective -”, The 20th International Conference on Industrial, Engineering & Other Applications of Applied Intelligent Systems (2007)
- “What can we do with graph-structured data? - A data mining perspective -”, The Nineteenth Australian Joint Conference on Artificial Intelligence (2006)
- “Active Mining, A Spiral Model of Knowledge Discovery from Data”, The First World Congress of the International Federation for Systems Research (2005)
- “Active Mining - A Spiral Model of Knowledge Discovery from Data”, The Nineteenth Fuzzy System Symposium of the Japan Society for Fuzzy THEory and Intelligent Informatics (2003)
- “Active Mining, A Spiral Model of Knowledge Discovery”, The 2002 IEEE International Conference on Data Mining (2002)
- “Feature Selection, Extraction and Construction”, Foundation of Data Mining, PAKDD02 (2002)
- “Active Mining - Scope and Perspective”, AI Seminar at the Sixteenth Annual Meeting of JSAI (2002)
- “Acquiring Knowledge from both Human and Data under Unstable Environment”, Tenth Portuguse Conference on Artificial Intelligence (EPIA-01) (2001)
- “Mining Patterns from Graph-Structured Data”, Fifth International Workshop on Multistrategy Learning (MSL-00) (2000)
- “Mining Frequent Patterns from Graph-Structured Data”, Twelveth Australian Joint Conference on Artificial Intelligence (AI-99) (1999)
- “Computer Assisted Discovery of First Principle Equations”, Third Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD-99) (1999)
- “Machine Learning Techniques to Make Computers Easier to Use”, Fifteenth International Conference on Artificial Intelligence (IJCAI-97) (1997)
- “Can Machine Learn in The Same Way as Humans Do?” First International Conference on Applied Ergonomics (1997)

10. Publication lists

1. Journals

- [1] T. Fushimi, K. Saito, K. Ohara, M. Kimura and H. Motoda, “Constructing Outlier-free Histograms with Variable Bin-Width based on Distance Minimization,” *Intelligent Data Analysis, An International Journal*, Vol.27, No.1, pp.5-29 (2023) [pdf](#)
- [2] T. Fushimi, K. Saito and H. Motoda, “Efficient Computation of Expected Motif Frequency in Uncertain Graphsby Exploiting Possible World Marginalization and Motif Transition,” *Social Network Analysis and Mining*, Springer, Vol.12, Issue 1, Article no.126 (2022) [pdf](#)

- [3] T. Fushimi, K. Saito, K. Ohara, M. Kimura and H. Motoda, “General Framework of Opening and Closing Shops over a Social Network based on Stochastic Utility under Competitive and Time-bounded Environment,” *Social Network Analysis and Mining*, Springer, Vol.11, Issue 1, Article no.70 (2021) [pdf](#)
- [4] K. Saito, T. Fushimi, K. Ohara, M. Kimura and H. Motoda, “Efficient computation of target-oriented link criticalness centrality in uncertain graphs,” *Intelligent Data Analysis, An International Journal*, Vol.25, No.5, pp.1323-1343 (2021) [pdf](#)
- [5] K. Ohara, K. Saito, M. Kimura and H. Motoda, “Critical Node Identification based on Articulation Point Detection for Uncertain Network,” *International Journal of Networking and Computing*, Vol.9, No.2, pp.201-216 (2019) [pdf](#)
- [6] K. Ohara, K. Saito, M. Kimura and H. Motoda, “Resampling-based predictive simulation framework of stochastic diffusion model for identifying top-K influential nodes,” *International Journal of Data Science and Analytics*, Springer, Vol.9, No.2, pp.175-195 (2020) [pdf](#)
- [7] K. Saito, K. Ohara, M. Kimura and H. Motoda, “Accurate and Efficient Detection of Critical Links in Network to Minimize Information Loss,” *Journal of Intelligent Information Systems*, Springer, Vol.51, No.2, pp.235-255 (2018) [pdf](#)
- [8] K. Matsutani, M. Kumano, M. Kimura, K. Saito, K. Phara and H. Motoda, “Extracting Cooperative Structure among Online Items from Share-Event Sequence,” (in Japanese) Vol.33, No.3A, pp.1-12 (2018) [pdf](#)
- [9] K. Saito, K. Ohara, M. Kimura and H. Motoda, “Which is More Influential, “Who” or “When” for a User to Rate in Online Review Site?,” *Intelligent Data Analysis, An Intelligent Data Analysis, An International Journal*, Vol.22, No.3, pp.639-657 (2018) [pdf](#)
- [10] M. Kimura, K. Saito, K. Ohara and H. Motoda, “Speeding-up node influence computation for huge social networks,” *International Journal of Data Science and Analytics*, Springer, Vol.1, No.1, pp. 3-15 (2016) [pdf](#)
- [11] K. Hatta, M. Kumano, M. Kimura, K. Saito. K. Ohara and H. Motoda, ”Analysis of Mediator-Activity Effects for Trust-Network Evolution in Social Media,” *Trans. Mathematical Modeling and Its Applications*, IPSJ, Vol.8, No.2, pp.44-56 (2015) [pdf](#)
- [12] K. Saito, M. Kimura, K. Ohara and H. Motoda, ”Super mediator – A new centrality measure of node importance for information diffusion over social network Reference,” *Journal of Information Sciences*, Elsevier, 329, pp.985-1000 (2016), Available online 23 Mar. 2015 [pdf](#)
- [13] K. Saito, K. Ohara, M. Kimura and H. Motoda, ”Change Point Detection for Burst Analysis from an Observed Information Diffusion Sequence of Tweets”, *Journal of Intelligent Information Systems*, Springer, Vol. 44, pp. 243-269 (2015) [pdf](#)
- [14] K. Saito, M. Kimura, K. Ohara, and H. Motoda, “ Learning Asynchronous-

- Time Information Diffusion Models and its Application to Behavioral Data Analysis over Social Networks,” *Journal of Computer Engineering and Informatics (JCEI)*, Vol. 1, Iss. 2, pp. 30-57 (2013) [pdf](#)
- [15] M. Kimura, K. Saito, K. Ohara and H. Motoda, “Learning to predict opinion share and detect anti-majority opinionists in social networks,” *Journal of Intelligent Information Systems*, Springer, Vol.41, pp.5-37 (2013) [pdf](#)
- [16] K. Saito, M. Kimura, K. Ohara and H. Motoda, “Detecting Changes in Information Diffusion Pattern over Social Network,” *ACM Transactions on Intelligent Systems and Technology (TIST)*, Vol.4, Iss. 3, pp.55:1-55:23 (2013) [pdf](#)
- [17] K. Ohara, K. Saito, K. Kimura and H. Motoda, “Burst Detection in a Sequence of Tweets based on Information Diffusion Model,” *Journal of the Data Base Society of Japan*, Vol.11, No.2, pp.25-30 (2012) [pdf](#)
- [18] K. Saito, M. Kimura, K. Ohara and H. Motoda, “Efficient Discovery of Influential Nodes for SIS Models in Social Networks,” *Knowledge and Information Systems: An International Journal*, Vol.30, No.3, pp.613-635 (2012) [pdf](#)
- [19] Yuya Yoshikawa, Kazumi Saito, Hiroshi Motoda, Kouzou Ohara, Masahiro Kimura, “Estimating Method of Expected Influence Curve from Single Diffusion Sequence on Social Networks,” *The IEICE Transactions (Japanese Edition)*, Vol.J94-D, No.11, pp.1899-1908 (2011) [pdf](#)
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- [21] M. Kimura, K. Saito, R. Nakano and H. Motoda, “Extracting Influential Nodes on a Social Network for Information Diffusion,” *Data Mining and Knowledge Discovery*, Springer, Vol.20, No.1, pp.70-97 (2010) [pdf](#)
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- [23] H. Motoda, “Problem with Research on Artificial Intelligence (in Japanese)”, *Manufacturing and Technology*, Vol.61, No.3, pp.23-26 (2009) [pdf](#)
- [24] M. Kimura, K. Saito and H. Motoda, “Blocking Links to Minimize Contamination Spread in a Social Network,” *ACM Transactions on Knowledge Discovery from Data*, Vol. 3, No.2: pp.9:1-9:23 (2009) [pdf](#)
- [25] A. Termier, M. Rousset, M. Sebag, K. Ohara, T. Washio and H. Motoda, “DryadeParent: An Efficient and Robust Closed Attribute Tree Mining Algorithm”, *IEEE Transaction on Knowledge and Data Engineering*, Vol.20, No.3, pp.300-320 (2008) [pdf](#)
- [26] Xindong Wu, Vipin Kumar, J. Ross Quinlan, Joydeep Ghosh, Qiang Yang, Hiroshi Motoda, Geoffrey J. McLachlan, Angus Ng, Bing Liu, Philip S.Yu, Zhi-Hua Zhou, Michael Steinbach, David J.Hand, Dan Steinberg, “Top 10

- Algorithms in DataMining,” Knowledge and Information Systems, An International Journal, Vol.14, No. 1, pp.1-37 (2007) [pdf](#)
- [27] H. Motoda, “Pattern Discovery from Graph-Structured Data - A Data Mining Perspective,” in New Trends in Applied Artificial Intelligence, LNAI4570, pp. 12-22 (2007) [pdf](#)
- [28] T. Washio, K. Nakanishi and H. Motoda, “A Classification Method Based on Subspace Clustering and Association Rules”, New Generation Computing, Vol.25, No.3, pp.235-245 (2007)
- [29] T. Washio, T. Higuchi, S. Imoto, Y. Tamada, K. Sato and H. Motoda, “Graph Mining and Its Application to Statistical Modeling”, Proc. of the Institute of Statistical Mathematics, Vol.54, No.2, PP.315-331 (2006) [pdf](#)
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- [32] Y. Misunaga, T. Washio and H. Motoda, “Mining Quantitative Frequent Itemsets using Adaptive Density-based Subspace Clustering (in Japanese)”, Transaction of JSAI, Vol.21, No.5, pp.439-449 (2006) [pdf](#)
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