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EUSFLAT Members Top at NAFIPS 2006



Flemish researcher Ester Van Broekhoven (Link: <http://users.ugent.be/~evbroekh/>) ended first place in the Top Five Best Student Papers at NAFIPS 2006 in Montréal. Ester is a Ph.D. Student at KERMIT, the research unit "Knowledge-based Systems" of the Faculty of Bioscience Engineering at Ghent University, led by Professor Bernard De Baets. In their winning contribution, they have shown that Mamdani-Assilian models, which are at the core of the majority of fuzzy control applications, in general do not guarantee a monotone input-output relationship when applied in multi-criteria decision making contexts, such as quality evaluation problems. Moreover, they have fully characterized the suitable combinations of fuzzy partitions, t-norms and defuzzification methods.

E. Van Broekhoven and B. De Baets, On the monotonicity of Mamdani-Assilian models with two input variables, *Proc. 2006 Conference of the North American Fuzzy Information Processing Society* (Montréal, Canada), 6 pages (CD).

The other top five students were: P. Klinov (U. of Cincinnati), J. L. Mayfield (U. of Cincinnati), M. Ning (Concordia U.), L. Ramirez (U. of Alberta). Additional information can be found at http://fuzzy.mie.concordia.ca/con_files/menu_files/studentparticipation.html.

The EUSFLAT Society cordially congratulates!

EUSFLAT Member Awarded at WCCI 2006



Prof. Janusz Kacprzyk received the IEEE CIS 2006 Fuzzy Systems Pioneer Award at WCCI 2006 in Vancouver, Canada. This award was presented to Prof. Kacprzyk for his work on fuzzy multistage control, in particular fuzzy dynamic programming.

Previous recipients were: Profs. E. Trillas (2005), R. R. Yager (2004), E. J. Mamdani (2003), D. Dubois and H. Prade (2002), J. Bezdek (2001), M. Sugeno (2000) and L. Zadeh (2000). Additional information can be found at <http://iee-cis.org/awards/>.

The EUSFLAT Society cordially congratulates!

News Regarding the EUSFLAT Homepage



Due to severe technical problems caused by a move of DNS servers, the EUSFLAT homepage and the e-mail server handling the mail aliases @eusflat.org was off-line for approximately two weeks, most likely between July 6, 2006 and July 21, 2006. **We apologize for all inconveniences caused by this breakdown!**

Moreover, we would like to announce that the EUSFLAT homepage has been moved to the Web server of the Institute of Bioinformatics at Johannes Kepler University, Linz, Austria. **The EUSFLAT society thanks this institute for hosting our Web page and we also thank Software Competence Center Hagenberg GmbH, Hagenberg, Austria, for hosting the EUSFLAT homepage for more than four years!**

New Affiliations of Two EUSFLAT Board Members

We would like to announce that the affiliations of two members of the EUSFLAT Board, president Ulrich Bodenhofer and treasurer Oscar Cordon, have changed. Their new contact data are:

Dr. Ulrich Bodenhofer
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New EUSFLAT Working Group: Soft Computing in Image Processing



The EUSFLAT society is glad to announce a new working group, the **EUSFLAT Working Group on Soft Computing in Image Processing (SCIP)**. The group is coordinated by Dr. Mike Nachtegaele, Dr. Dietrich Van der Weken and Prof. Dr. Etienne Kerre from Ghent University, Belgium. Presently, the group has 153 members from 39 countries.

E-Mail: SCIP@ugent.be

Link: <http://www.fuzzy.ugent.be/SCIP>

The SCIP Working Group was founded in November 2002 and on the occasion of the EUSFLAT General Assembly in Paris, it was approved unanimously as a EUSFLAT Working Group. Its goal is to establish, to intensify and to stimulate international cooperation between researchers that are active in the area of soft computing in image processing. This goal is achieved by a variety of activities, all aimed at bringing together researchers and at exchanging knowledge and ideas. These activities include the organization of special sessions at international conferences, publications (edited books or journal issues), communications (website and newsletters) and the quest for external funding.

Regarding conferences, the group has organized special sessions at IFSA 2003, JCIS 2003, WILF 2003, FLINS 2004, SCIS&ISIS 2004, WILF 2005, FUZZ-IEEE 2006, FLINS 2006 and ICIP 2006. We have edited a special journal issue of "Soft Computing", and a special issue of the "International Journal on Approximate Reasoning" is scheduled. Within a few months, the edited volume "Soft Computing in Image Processing: Recent Advances" will be published by Springer. More information on all these activities (past, present and future) can be found on the SCIP website.

Now the group has applied for the status of a EUSFLAT Working Group. On the occasion of the EUSFLAT General Assembly held July 4, 2006, in Paris, SCIP was approved unanimously as a EUSFLAT Working Group. The EUSFLAT society welcomes the new working group and encourages members that are interested in the topics relevant to SCIP to join this working group! Membership is completely free, and guarantees your involvement in the SCIP activities. Just fill in the membership form that can be downloaded from the SCIP website.

EUSFLAT Student Grants at IPMU 2006

The following students were awarded at IPMU 2006: Alonso, José (Spain), Barcelo, Aina (Spain), Behounek, Libor (Czech Rep.), Lendelova, Katarina (Slovak Rep.), Maes, Koen (Belgium), Mihailovic, Biljana (Serbia), Noskova, Lenka (Czech Rep.)

PhD Dissertations

Klaus Weber

Fuzzy Stochastic Optimization and Applications in Marketing

(in German: Unscharfe stochastische Optimierung und Anwendungen im Marketing)

Abstract: One of the goals in marketing is decision on the most effective means to acquire customers in order to realize maximum profit. Due to the electronic accessibility of customer data from large databases, data mining has become a common technique to get deeper insight into customer behavior. However, those results cannot be utilized straight to steer the process of acquiring customers.

This work introduces models and methods which support marketing decisions directly. Mainly, it consists of a simulation and two optimization problems. Initially, a simulation model for customer behavior and economic key figures is developed. The first optimization problem aims to determine the best possible amount of customers to which a marketing strategy is applied. And the second optimization problem focuses on computation of an optimal decision strategy for marketing actions.

For simulation and optimization both the stochastics of customer behavior and the fuzziness of various elements of customer acquisition are modeled. Fuzziness occurs, for instance, in capacity restrictions for marketing actions, the objective of the acquisition process, and the evaluation of which action suits which customers well.

The first optimization problem enhances known approaches of fuzzy linear optimization. A "crisp equivalent" of the fuzzy problem is gained by setting a truth level. Uncertainty in the customer behavior is modeled by generating the deterministic equivalent from scenarios. Structural investigation of the problem leads to a multi-commodity network flow problem. Its solution by an averaging approach for different scenarios is compared to an augmented Lagrange method.

In order to solve the second optimization problem a state-space model for the process of acquiring customers is developed. Actually, the latter is a multi-stage stochastic decision process in a fuzzy environment with implicitly given process termination. It is based on Bellman's and Zadeh's

seminal paper in 1970: "Decision-Making in a Fuzzy Environment". Whereas other approaches in literature consider stochastic decision processes with a pre-defined number of stages, this work defines process termination implicitly by reaching a terminated state of the state space. In-depth theoretical investigation of the problem finally comes out with a practically applicable method: The optimal policy is the fixed point of a specific operator and can be computed iteratively. Further on, analysis of the t -norms in the model proves that all propositions for solution of the second optimization problem hold for an entire class of t -norms.

Models and methods developed in this work are motivated from problems in marketing and applied to this field. Nevertheless, owing to generality of the methods, areas of application go far beyond economics. Practical capability of the methods is illustrated by various case studies.

Keywords: stochastic optimization, fuzzy logic, simulation, dynamic optimization, multi-stage stochastic decision processes, fuzzy environment, marketing, customer acquisition

Supervisor: Prof. Dr. Ludwig Cromme, Brandenburg Technical University at Cottbus, Germany

About the author:

Klaus Weber, born in 1964, studied mathematics at the University of Karlsruhe, and gained his Doctoral degree on January 2006 from the Brandenburg Technical University at Cottbus, Germany. Since 2000 he had been with Lufthansa Systems in Berlin. Currently he is *Manager Yield Systems* at AIDA Cruises, Rostock, Germany. E-Mail: klweber@math.tu-cottbus.de and klaus.weber@aida.de.

Bibliographic Information:

The thesis is available at: <http://vieta.math.tu-cottbus.de/~klweber/>.

Carles Noguera i Clofent

Algebraic study of axiomatic extensions of triangular norm based fuzzy logics

Abstract: According to the Zadeh's famous distinction, Fuzzy Logic in narrow sense, as opposed to Fuzzy Logic in wide sense, is the study of logical systems aiming at a formalization of approximate reasoning. In the systems commonly used the strong conjunction connective is interpreted as a triangular norm (t -norm, for short) while the implication connective is interpreted as its residuum. Therefore, the usual logical systems for Fuzzy Logic are based on t -norms with a residuum.

The necessary and sufficient condition for a t -norm to have a residuum is the left-continuity. In order to define the based t -norm based fuzzy logic, Esteva and Godo introduced the system MTL, which was indeed proved to be complete with respect to the semantics given by all left-continuous t -norms and their residua.

In this dissertation we have carried out an attempt to describe the axiomatic extensions of MTL, paying attention to those which are also t -norm based. We have done it from an algebraic point of view, by exploiting the fact that these logics are algebraizable by varieties of MTL-algebras. Therefore, our study has resulted in an algebraic study of such varieties, where the final aim would be to obtain a description of the structure of their lattice and their relevant properties. Although this description has not been achieved yet, we have done several significant advances in this direction that can be classified in two groups: (a) those that spread some light over the amazing complexity of the lattice, and (b) those that describe some well-behaved parts of the lattice. More precisely:

- By considering the connected rotation-annihilation method proposed to build involutive left-continuous continuous t -norm, we have proposed a possible way to decompose MTL-chains and we have studied some particular cases of this decomposition. This has resulted in an extension of the theory of perfect, local and bipartite algebras formerly used in varieties of MV and BL-algebras, to the variety of all MTL-algebras.
- Perfect IMTL-algebras have been proved to be exactly (module isomorphism) the disconnected rotations of prelinear semihoops (a particular case of the decomposition as connected rotation-annihilation).
- The lattice of varieties generated by perfect IMTL-algebras has been proved to be isomorphic to the lattice of varieties of prelinear semihoops.
- A decomposition theorem of every MTL-chain as an ordinal sum of indecomposable prelinear semihoops has been proved. Since all IMTL-chains are indecomposable and, as the previous item states, we have the complexity of all the lattice of varieties inside the involutive part, the description of all indecomposable prelinear semihoops seems to be a hopeless task.
- A particular class of indecomposable MTL-chains has been studied, namely weakly cancellative chains. We have studied the logics associated to these chains.
- We have studied the varieties of MTL-chains where a weak form of contraction, the so-called n -contraction law, holds. This condition yields a global form of Deduction Detachment Theorem and allows to prove several properties of their related logics.
- We have focused on a particular subvariety of 3-contractive MTL-algebras, namely Weak Nilpotent Minimum, obtaining a number of results on axiomatization of their subvarieties, local finiteness, generic chains and standard completeness.
- Finally, we have studied the expansions of t -norm based logics with truth-constants and their standard completeness properties.

Keywords: algebraic logic, many-valued logics, non-classical logics, standard completeness, t -norm based fuzzy logics, varieties.

Advisors: Francesc Esteva (IIIA - CSIC) and Joan Gispert (University of Barcelona)

About the author:

Carles Noguera i Clofent was born in Barcelona (Catalonia) in 1978. He studied Mathematics in the University of Barcelona where he obtained the degree in 2001. In 2004 he obtained the Master degree in Logic and Foundations of Mathematics with a dissertation that was awarded with the Galois Prize of the Catalan Mathematical Society. He prepared his PhD thesis in the Artificial Intelligence Research Institute (IIIA - CSIC) under the supervision of Francesc Esteva and Joan Gispert, and obtained the PhD in Logic and Foundations of Mathematics in the 11th of July of 2006. He is currently finishing also the degree in Philosophy in the University of Barcelona. E-Mail: cnoquera@iia.csic.es.

Book Announcements and Reviews

Announcements

- C. Alsina, M. J. Frank, B. Schweizer, B., *Associative functions: triangular norms and copulas*, WorldScientific, 2006. ISBN 981-256-671-6.
- E. Sanchez, (Ed.), *Fuzzy Logic and the Semantic Web*, Elsevier, 2006. ISBN: 0-444-51948-3.
- B. Bouchon-Meunier, G. Coletti, R. Yager, (Eds.), *Modern information processing: From Theory to Applications*, Elsevier, 2006. ISBN 0-444-52075-9.
- J. J. Buckley, *Fuzzy Probability and Statistics*, Studies in Fuzziness and Soft Computing 196, Springer, 2006. ISBN 3-540-30841-5.
- I. Glockner, *Fuzzy Quantifiers: A Computational Theory*, Studies in Fuzziness and Soft Computing 193, Springer, 2006. ISBN 3-540-29634-4.
- H. T. Nguyen, B. Wu, *Fundamentals of Statistics with Fuzzy Data*, Studies in Fuzziness and Soft Computing 198, Springer, 2006. ISBN 3-540-31695-7.

Book review



Claudi Alsina, Maurice J. Frank, Berthold Schweizer
Associative Functions: Triangular Norms and Copulas, World Scientific, 2006. 252 pages. ISBN 981-256-671-6.
Link: <http://www.worldscibooks.com/mathematics/6036.html>

Reviewed by: Lluís Godo (IIIA-CSIC)

This is a book expected for a long time. Actually, as the authors explain in the preface, it was already in December 1994 when the authors decided to write this book, but for different reasons, it has taken almost 12 years to be finished and published.

The book has strong flavor of functional equations theory, very natural as the authors are outstanding researchers in this field, and it focuses on the fundamental properties and representations of associative functions on closed intervals basically from that point of view. In this sense, the book appears as a natural complement, rather than an alternative text, to the other recent and important monograph *Triangular Norms*, by Klement, Mesiar and Pap.

The content of the book is divided in four chapters. Chapter 1 is devoted to introducing the associative functions which are the main focus of the book, namely, the (continuous) triangular norms (t -norms for short), as well as s -norms and copulas. In this chapter, the authors derive the basic properties of these three classes of associative functions and establish some of the relations within and among them. Chapter 2 is devoted to the basic representation theorems for continuous associative functions. It starts by the celebrated C.-H. Ling representation of continuous Archimedean t -norms by one-place function and addition, as a variant of the Abel-Aczél representation of strict t -norms, and then it continues with the continuous non-Archimedean case, by using Mostert and Shields theorem of decomposition of non-Archimedean t -norms as ordinal sums of Archimedean ones. The authors also discuss successively weaker assumptions that have been established since the first results were formulated, that allow to adapt the representation theorems to a variety of extensions. In Chapters 3 and 4, the authors gather many results about important functional equations (e.g. simultaneous associativity, distributivity, duality, homogeneity), and inequalities involving t -norms which have appeared in different application fields of applications of associative functions, like in probabilistic metric spaces, fuzzy sets theory and fuzzy logic, information theory, etc. The book ends with two appendices, one on very interesting examples and counterexamples of many properties and functions appearing in the text and another with a list of open problems, and with a very extensive list of references.

In summary, the book appears as a clear reference work in the literature of t -norms and related functions, intended and fully recommendable for a broad audience, not only for people in the fuzzy sets community but for anyone working in fields where continuous associative functions on closed real intervals play a role.

Book description



Elie Sanchez (editor)
Fuzzy Logic and the Semantic Web, Elsevier, 2006. 496 pages. ISBN 0-444-51948-3.
Link: http://www.elsevier.com/wps/product/cws_home/706920

Description: These are exciting times in the fields of Fuzzy Logic and the Semantic Web, and this book will add to the excitement, as it is the first volume to focus on the growing connections between these two fields. This book will be a valuable aid to anyone considering the application of Fuzzy Logic to the Semantic Web, because it contains a number of detailed accounts of these combined fields, written by leading authors in several countries. The field of Fuzzy Logic has been maturing for forty years. These years have witnessed a tremendous growth in the number and variety of applications, with a real-world impact across a wide variety of domains with humanlike behavior and reasoning. And we believe that in the coming years, the Semantic Web will be major field of applications of Fuzzy Logic. This book, the first in the new series *Capturing Intelligence*, shows the positive role Fuzzy Logic, and more generally Soft Computing, can play in the development of the Semantic Web, filling a gap and facing a new challenge. It covers concepts, tools, techniques and applications exhibiting the usefulness, and the necessity, for using Fuzzy Logic in the Semantic Web. It finally opens the road to new systems with a high Web IQ. (excerpt from the Foreword, Elie Sanchez).

This series aims at publishing books on research from all disciplines dealing with and affecting the issue of understanding and reproducing intelligent artificial systems. The series will cast its net wide, aiming for contributions from diverse areas such as symbolic AI, biological approaches, self-organisation and emergence, and physically embodied systems. However, the current volume is not simply a treatise on classical topics. Instead, it confronts a classical, rich and well-established area, namely the representation of fuzzy, non-crisp concepts, with a new and highly exciting challenge, namely the vision of the Semantic Web. The insight that any realistic approach to the Semantic Web will have to take into account the lessons from fuzzy logic approaches is gaining ground in a wide community, and slowly but surely, the Semantic Web community is waking up to this fact. I am convinced that this book is a very good and timely start of this new book series, and I am looking forward to future volumes in this series, of equally high quality and relevance. (Excerpt from the Preface, Frank van Harmelen - series editor).

Conferences and Calls for Papers

Conference reports

FQAS 2006 (<http://fqas2006.disco.unimib.it/>)

The Seventh edition of the biennial International Conference on Flexible Query Answering Systems (FQAS 2006) was held at the Università degli Studi di Milano Bicocca, Milano, Italy, on June 7-10, 2006. The conference was jointly organized by the Department of Computer Science of the Università Milano Bicocca and by the Aalborg University, Esbjerg, Denmark.

FQAS is concerned with the very important issue of providing users of information systems with flexible querying capabilities, and with an easy and intuitive access to information.

This multidisciplinary conference draws on several research areas, including information retrieval, database management, information filtering, knowledge representation. The conference participants were 80 coming from several countries in Europe, and from other countries (among which Korea, United States and Australia). The conference Proceedings (a volume of the series Lecture Notes in Artificial Intelligence, Springer; vol. 4027) collect 60 papers, which have been selected out of more than 100 submissions. The two plenary lecturers of FQAS 2006 were Stefano Ceri from the Politecnico di Milano and Prabhakar Raghavan from Yahoo! Research.

Gabriella Pasi, FQAS 2006 Conference Co-chair (with Henrik Legind Larsen).

SAC-IAR TRACK 2006 (<http://www.cis.strath.ac.uk/external/SAC2006/>)

The 21st Annual ACM Symposium on Applied Computing was held in Dijon, France, on April 23 -27, 2006. Within this Symposium, the Track on Information Access and Retrieval (IAR) was co-chaired (as usual) by Gabriella Pasi (Università degli Studi di Milano Bicocca, Milano, Italy) and Fabio Crestani (University of Strathclyde, Glasgow, UK).

This track is centred on research themes related to Information Retrieval (IR), which aims at modelling, designing and implementing systems able to provide fast and effective content-based access to a large amount of information. Information can be of any kind: textual, visual, or auditory. Nowadays, research in Information Retrieval is central to the design and development of advanced information access technologies and spans a number of research topics including document modelling, document classification and categorization, system architecture, user interfaces, data visualisation, languages, topic detection, etc.

This year the SAC-IAR track received 54 paper submissions, thus confirming the trend of increasing number of submissions. Only 16 papers (and 5 posters) were accepted, thus giving us an acceptance rate of less than 30%, the lowest we ever had in previous tracks. The high and increasing number of submissions over the last 5 years is also proof of the importance of the research field considered by this track. Conversely, the number of papers accepted and the consequent acceptance rate has been almost constant, thus enabling us to concentrate more and more of accepting papers of very high quality. For this, our gratitude goes to the over 50 member of the track Program Committee (a list of which can be found in the conference proceedings) whose help was invaluable for the selection process. In fact, every paper was reviewed by at least 3 members of the Program Committee and only papers with at least two positive reviews were considered acceptable. The web site of SAC-IAR 2007 is: <http://www.cis.strath.ac.uk/external/SAC2007/>.

Gabriella Pasi, SAC – IAR co-chair.

MDAI 2006 (<http://www.mdai.cat/mdai2006/>)

From the 3rd to the 5th of April 2006, Tarragona (Catalonia, Spain) held the 3rd edition of the International Conference on Modeling Decisions for Artificial Intelligence. Dr. Aida Valls and Prof. Josep Domingo-Ferrer (from the University Rovira i Virgili) chaired the conference and Drs. Torra and Narukawa were the PC chairs. The conference was supported by EUSFLAT, ACIA and SOFT societies. About 40 papers were presented in addition to 4 invited lectures. The first plenary talk was given by Jozo Dujmovic (San Francisco State University, USA). He discussed on some formal aspects of aggregation operators. He showed how such aspects as orness or asymmetry are relevant in practical applications, and how they can help on the process of selecting aggregation operators. The second talk was given by Jordi Sabater (Artificial Intelligence Research Council, Catalonia, Spain). He presented the current research lines on trust and reputation systems. He also outlined some of the topics in which information fusion and aggregation operators can play a role. The third plenary talk was given by Michio Sugeno (Doshisha University, Japan). Sugeno, that introduced the fuzzy integral that wears his name (in 1974), presented his current research in the area of brain-style computing. He presented results showing the influence of the language in the way the brain processes the information. The last plenary talk of the conference was given by Salvatore Greco (University of Catania, Italy), on the application of Rough Sets to Case-Based Reasoning for taking decisions. The conference papers were published in the LNAI series by Springer (Vol. 3885).

A. Valls and J. Domingo-Ferrer, MDAI 2006 chairs.

IPMU 2006 (<http://ipmu2006.lip6.fr/>)

The 11th IPMU International Conference was held on June 2 to 7, 2006, celebrating 20 years of IPMU, in the amphitheatres, garden and cloister of the Cordeliers site. More than 400 participants, theoreticians and practitioners working on methods for the management of uncertainty and aggregation of information in intelligent systems, could exchange results and ideas. Many PhD students were able to attend and EUSFLAT supported seven of them by a grant. Attendees were coming from 38 countries around the world, including 20 European countries, to participate in 6 parallel sessions during 5 days, in addition to six plenary lectures, given by Daniel Kahneman (Princeton University, USA, Nobel Prize in Economy in 2002), John Shawe-Taylor (University of Southampton, U.K.), Glenn Shafer (Rutgers Business School, USA and Royal Holloway College, University of London, U.K.), Michael Wooldridge (University of Liverpool, U.K.), Lotfi A. Zadeh (University of California at Berkeley, USA), Ingrid Zukerman (Monash University, Australia). A reception in the prestigious site of the Sorbonne university, a banquet and a closing party in the Cordeliers cloister enabled all participants to meet each other and to have cheerful discussions. Hard copies of the proceedings, as well as CDs are available and can be purchased on the IPMU website <http://ipmu2006.lip6.fr>.

B. Bouchon-Meunier, IPMU 2006 chair.

Upcoming EUSFLAT Conference:

- **5th Conference of the European Society for Fuzzy Logic and Technology (EUSFLAT 2007)**, Ostrava, Czech Republic, September 11-14, 2007. **Submission deadline: 12 January 2007.**
<http://www.eusflat2007.cz>

Upcoming EUSFLAT-Endorsed Events:

- **2nd International Symposium on Evolving Fuzzy Systems (EFS '06)**, Lake District, UK, September 7-9, 2006.
<http://www.efs06.org/>
- **9th Fuzzy Days**, Dortmund, Germany, September 18-20, 2006.
<http://fuzzydays.cs.uni-dortmund.de>
- **13th Spanish Conference on Fuzzy Logic and Technologies (ESTYLF 2006)**, Ciudad Real, Spain, September 20-22, 2006.
<http://www.estylf2006.org/>
- **Symposium on Fuzzy Systems in Computer Science (FSCS 2006)**, Magdeburg, Germany, September 27-28, 2006.
<http://fuzzy.cs.uni-magdeburg.de/fscs2006/>
- **French Days on Fuzzy Logic and Applications (LFA 2006)**, Toulouse, France, October 19-21, 2006.
<http://www.irit.fr/LFA06/>
- **28th Linz Seminar on Fuzzy Set Theory (LINZ2007)**, Linz, Austria, February 6-10, 2007. **Submission deadline: 25 November 2006.**
<http://www.fill.jku.at/research/linz2007/>
- **12th IFSA World Congress (IFSA 2007)**, Cancun, Mexico, June 18-21, 2007. **Submission deadline: 16 October 2006.**
<http://www.hafsamx.org/ifsa2007/>
- **Modeling Decisions for Artificial Intelligence (MDAI 2007)**, Kitakyushu, Japan, August 16-18, 2007. **Submission deadline: 1 February 2007.**
<http://www.mdai.cat/mdai2007/>

Other Events:

- **4th IEEE International Conference on Computational Cybernetics (ICCC 2006)**, Helsinki, Finland and Tallinn, Estonia, August 18-22, 2006.
<http://plectics.org>
- **4th Serbian-Hungarian Joint Symposium on Intelligent Systems (SISY 2006)**, Subotica, Serbia and Montenegro, September 29-30, 2006.
<http://www.bmf.hu/conferences/sisy2006>
- **7th International Symposium of Hungarian Researchers on Computational Intelligence**, Budapest, Hungary, November 10-11, 2006.
<http://www.bmf.hu/conferences/huci2006>
- **3rd IEEE Conference On Intelligent Systems**, London, U.K., September 4-6, 2006.
<http://ieeais06.wmin.ac.uk>
- **2nd Int. Conf. on Natural Computation, 3rd Int. Conf. on Fuzzy Systems and Knowledge Discovery (ICNC'06 - FSKD'06)**, Xi'an, China, September 24-28, 2006.
<http://www.icnc-fskd2006.org/>
- **11th Online World Conference on Soft Computing in Industrial Applications (WSC11)**, September 18-Oct 6, 2006.
<http://www.qtsav.gatech.edu/drl/wsc11/>
- **5th Int. Conference on Rough Sets and Current Trends in Computing (RSCTC 2006)**, Kobe, Japan, November 6-8, 2006.
<http://rsctc2006.med.shimane-u.ac.jp>
- **20th Int. Joint Conference on Artificial Intelligence (IJCAI-07)**, Hyderabad, India, January 6-12, 2007.
<http://www.ijcai-07.org/>
- **Special Track on Information Access and Retrieval at the ACM Symposium on Applied Computing (ACM SAC-IAR at SAC 2007)**, Seoul, Korea, March 11-15, 2007. **Submission deadline: 8 September 2006.**
<http://www.cis.strath.ac.uk/SAC2007/>
- **IEEE International Conference on Fuzzy Systems**, London, UK, July 23-26, 2007. **Submission deadline: 31 January 2007.**
<http://www.fuzzIEEE07.org>

EUSFLAT Board

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