

Zpravodaj pro kybernetiku a informatiku

ČSKÍ Česká společnost pro kybernetiku a informatiku

prosinec
2015

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Prosincové kalendárium

7. P. Tichavský: Handling multidimensional probability tables by means of Kruskal-form tensors
9. Z. Haníková: Syntactic fragments in FLew-algebras

Odborná skupina aplikované matematické logiky

Vás zve na semináře, které se konají vždy ve středu v zasedacím sále Ústavu informatiky AV ČR (místnost č. 318), Pod Vodárenskou věží 2, 182 07 Praha 8 – Libeň, stanice metra C Ládví.

Pozor! Začátek seminářů je posunut na 10 hodin!

9. prosince 2015

Zuzana Haníková: Syntactic fragments in FLew-algebras

Syntactic fragments of theories occur by imposing restrictions on the syntax of formulas, without reference to an interpretation. Membership in the restricted class is typically trivial to test, so any decision procedures for the theory also works for the fragments. Sometimes the converse is also true: a fragment is no easier to decide than the theory. I will discuss two ways of obtaining syntactic fragments of the universal/existential theory of FLew-algebras and subvarieties: restricting the set of function symbols (of the FLew language), and imposing restrictions on the Boolean formula in the matrix (of a prenex-form universal/existential formula). I will recall some existing results for both types of fragments. The focus of the talk is on identities of the semigroup fragments and the implicational fragments of some fuzzy logics.

Odborná skupina pro inteligentní systémy

Vás zve na přednášku v budově ÚTIA AV ČR, Pod Vodárenskou věží 4, 182 08 Praha 8 – Libeň.

Petr Tichavský

Handling multidimensional probability tables by means of Kruskal-form tensors

Přednáška se koná 7. prosince od 14:00 hod. v místnosti č. 25.

Souhrn. Probability tables or conditional probability tables (CPTs) of discrete valued random variables may achieve high dimensions and may become intractable by conventional methods of statistical inference in Bayesian networks and in other areas because of their dimensionality. In many cases, however, these probability tables constitute tensors of relatively low rank. Such tensors can be written in so called Kruskal form as a sum of rank-one components. Such representation need not be unique and several (sometimes many) equivalent representations of the same tensor may co-exist.

How to work with these Kruskal form representations instead of working with full form of the tensors will be suggested. Particular elements of the tensor are evaluated only when they are needed. It will be shown how standard operations with probability tables can be done through the Kruskal form of tensors. In this way it is possible to work with probability tables that are intractable otherwise because of their large size.

Volná místa

École Polytechnique Fédérale de Lausanne, Switzerland

Post-doctoral position in Control and Optimization at EPFL, Lausanne, Switzerland.

We are looking for an outstanding candidate with a PhD degree in the area of control and optimization. The position is limited to one year. The duties will include research in the area of real-time optimization, supervision of doctoral students and interaction with industrial partners. The Laboratoire d'Automatique is a multidisciplinary teaching and research unit that includes two professors, two

senior lecturers, 4 post-docs, about 20 PhD students and excellent supporting staff. Lausanne is a mid-sized, French-speaking city nicely located on the northern shore of Lake Geneva. It offers a large variety of cultural and recreational activities. The position is available starting as early as Spring 2016. A highly competitive salary is offered. The application material should include a CV with a list of publications and the name of three professional references as well as a short description of experiences and future professional objectives.

For inquiry, please contact Prof. Dominique Bonvin, Laboratoire d'Automatique, EPFL Station 9, CH-1015 Lausanne, Switzerland, Tel: +41 21 693 3843.

Technion - Israel Institute of Technology, Israel

A post-doctoral position is available at the Department of Aerospace Engineering, Technion - Israel Institute of Technology, in Haifa, Israel.

The research is in the general area of guidance of unmanned vehicles, such as airplanes, missiles, and submarines. The scope of the research is broad and possible topics include: 1) Cooperative guidance; 2) Integrated guidance and flight control; 3) Estimation based guidance; 4) Intertwined guidance and task assignment. The research will involve both theoretical and algorithmic aspects. Laboratory experiments on available ground and aerial robots may also be performed.

Candidates for this position should have a Ph.D. in engineering (aerospace, mechanical, electrical, or similar), computer science, or applied math. Strong background in optimal control and/or differential games is an advantage.

Application material should include: a cover letter; detailed curriculum vitae, including educational background and a list of publications; undergraduate and graduate studies grades transcripts; contact information for at least two, preferably three, academic references.

The material should be submitted, in pdf, via e-mail, to Prof. Tal Shima, tal.shima@technion.ac.il The position is available immediately and applications will be handled as they arrive until the position is filled. For further inquiries, please contact Tal Shima at: tal.shima@technion.ac.il

Různé konference

World IT Congress 2016 Jeju – The 2016 World Congress on Information Technology Applications and Services "Advanced Mobile, Communications, Security, Multimedia, Vehicular, Cloud, IoT, and Computing", Jeju, Korea, February 17-19, 2016. Paper submission deadline: December 20, 2015. <http://www.worlditcongress.org/2016jeju>

ICCC 2016 – 7th International Conference on Computational Creativity, Paris, France, June 27 - July 1, 2016. Paper submission deadline: February 27, 2016. <http://www.computationalcreativity.net/iccc2016/>

ICT-BDCS 2016 – 7th Annual International Conference on ICT: Big Data, Cloud and Security, Singapore, August 22-23, 2016. Paper submission deadline: February 29, 2016. www.bigdataclouds.org

NETs 2016 – International Conference on Internet Studies, Osaka, Japan, July 22-24, 2016. Paper submission deadline: February 29, 2016. <http://www.internet-studies.org/>

ETFA'2016 – 21th IEEE International Conference on Emerging Technologies & Factory Automation, Berlin, Germany, September 6-9, 2016. Paper submission deadline: March 15, 2016. <http://www.etfa2016.org/>

Vydává Česká společnost pro kybernetiku a informatiku pro potřeby svých členů. Neprodejné. Neprošlo korekturami ani jazykovou úpravou. Informace o členství v ČSKÍ na jejím sekretariátě. Příspěvky posílejte na adresu sekretariátu (přednostně emailem a v elektronické formě LaTeX).

Uzávěrka příštího čísla: 28. prosince 2015.

Texty z tohoto zpravodaje smějí být uveřejněny jinde jako celek i po částech. Prosíme ovšem o uvedení odkazu na ČSKÍ jako zdroj.