UNIVERSITÉ DE FRIBOURG
UNIVERSITÄT FREIBURG

DEPARTEMENT D'INFORMATIQUE
DEPARTEMENT FÜR INFORMATIK

INFORMATICS COLLOQUIUM

Speaker:

Miroslav Hudec, University of Economics in Bratislava, Slovakia

Aggregating Asymmetric Requirements by Intuitive Interfaces

Abstract:
Many real-world evaluation tasks are composed of mandatory and optional requirements, e.g., *spacious basement or else spacious attic* and *low price and if possible short travel distance*. Thus, the human-computer interaction should also cover the natural human evaluation of mandatory and optional requirements in the conjunctively polarized evaluation, as well as full and optional requirements in the disjunctively polarized evaluation. An example of a compound requirement is [(*most of* $\{P_1 \dots P_n\}$) *and if possible/or else* (*most of* $\{Q_1 \dots Q_m\}$)], where requirements P_i ($i = 1 \dots n$) and Q_j ($j = 1 \dots m$) might be fully or partially satisfied. Fuzzy sets and logical aggregations are able to manage these tasks effectively. Logical aggregation covers cases from the slight to full relevance of optional requirements. The key factor for applicability is the design of an intuitive user-friendly interface, where users are able to linguistically express atomic requirements and preferred aggregations, whereas the mathematical formalization is beyond the interface. The applicability is in cognitive cities, medical diagnoses, tailored motivation, interactive machine learning and smart participation among others.

Bio:
Miroslav Hudec is an associate professor at the University of Economics in Bratislava, Faculty of Economic Informatics (Slovakia). He received the PhD degree from the University of Belgrade (Serbia) and habilitation degree from the VSB Technical University of Ostrava (Czech Republic). His work is mainly focused on fuzzy logic, aggregation functions, knowledge discovery and information systems. He is a member of program committees of several international conferences and serves as an editorial board member in several journals including Applied Soft Computing. He has published more than 50 articles including a monograph in Springer. In the FP7 project Blue-ETS focused on modernizing official statistics, he was the leader of two working packages.

Date and time: *Monday February 3rd, 2020, 02.00 pm*
Location: *Pérolles 21, room E230, Bd de Pérolles 90, Fribourg*
Contact person: *Prof. Edy Portmann*

The colloquium is free and open to the public.