



INFORMATICS COLLOQUIUM

Speaker:

Prof. Allel Hadjali, ISAE – ENSMA, Poitiers, France

On Intelligent Robust Combinatorial Decision Making

Abstract:

In many real-life applications (e.g., groups recommendation, investments selection, detection of fire/crime-most dangerous places, expert teams selection, etc.), users do not only require analyzing individual objects but also groups of objects to make decisions. Skyline paradigm is one of the most popular and useful approach for multi-criteria data analysis and decision-making. It aims at identifying a set of skyline points that are not dominated in Pareto sense by any other point in a dataset. In the recent two decades, the skyline definition has been extended with different variants and the skyline computation problem for finding the skyline of a given dataset has been studied extensively. One important problem that has been surprisingly neglected to the large extent is the need to find groups of points that are not dominated by others as many real-world applications may require the selection of a group of points.

In this talk, we focus on extending the skyline model to the combinatorial context to deal with group skyline set (i.e., groups that are not dominated by any other group in a given dataset). The theoretic setting used is the one based on Soft Computing. We present the recent developments on group skyline both from the semantic and computational sides. We also tackle explicitly the important issue related to controlling the size of group skyline. Some open challenges on the topic are discussed as well.

Bio:

Allel HADJALI is Full Professor in Computer Science at the National Engineering School for Mechanics and Aerotechnics (ISAE-ENSMA), Poitiers, France. He is a member of the Data & Model Engineering research team of the Laboratory of Computer Science and Automatic Control for Systems (LIAS/ISEA-ENSMA). His main area of research falls within Data Science field, and more specifically, the research topics related to Data Exploitation & Analysis, Knowledge Extraction and Recommendation. His current research interests include Soft Computing and Computational Intelligence in Databases (Cooperative/Intelligent Databases, Data fusion/integration, Data quality, Data Uncertainty, Data Privacy and Trust) and Explainable Artificial Intelligence. His recent works were published in well-known journals (e.g., Applied Soft Computing, Fuzzy Sets and Systems, International Journal of Intelligent Systems). He also published several papers in International Conferences (ESWC, ICTAI, Fuzz-IEEE, DEXA, FQAS, SUM, ISMIS, IPMU, CoopIS, IFSA, ACM SAC, VLDB-Demo). He co-organized several special sessions in conjunction with international specialized conferences and also several special issues in well-known journals. The complete list of his publications is available in <http://www.lias-lab.fr/members/allelhadjali>.

Date and time: **Tuesday, May 07th, 2024, 11.00 am.**

Location: **Pérolles 21, room B130, Bd de Pérolles 90, Fribourg**

Contact person: **Prof. Edy Portmann**

The colloquium is free and open to the public.