V**OR**träge zum Operations Research

Kolloquium des Instituts für Operations Research

Zeit: Donnerstag, 19. Januar 2023, 14:00 Uhr

Ort: Online via Zoom

Es spricht: Prof. Dr. Dr. h.c. mult. Roman Słowiński, Poznań University of Technology, and Polish Academy of Sciences, Poland

Zum Thema: **Preference Learning by Robust Ordinal Regression for Multiple Criteria Decision Aiding**

Abstract: Recognizing the preferences of Decision Makers (DM) is crucial for multi-criteria decision aiding. We present a constructive preference learning methodology, called robust ordinal regression. This methodology links Operational Research with Artificial Intelligence, and as such, it confirms the current trend in mutual relations between OR and AI. The lecture starts from an observation that the dominance relation established in the set of alternatives evaluated on multiple attributes (criteria, or voters, or states of the nature) is the only objective information that stems from the formulation of a multiple attribute decision problem (ordinal classification, or ranking, or choice – with multiobjective optimization being a particular case). While it permits to eliminate many irrelevant (i.e., dominated) alternatives, it leaves many alternatives incomparable. This situation may be addressed by taking into account preferences of the DM. Therefore, decision aiding methods require some preference information exhibiting a value system of a single or multiple DMs. The preference information has often the form of decision examples. It is used by robust ordinal regression to build a preference model, which is then applied on a non-dominated set of alternatives to arrive at a recommendation presented to the DM(s). In practical decision aiding, the process composed of preference elicitation, preference modeling, and DM's analysis of a recommendation, loops until the DM (or a group of DMs) accepts the recommendation or decides to change the problem setting. Such an interactive process is called constructive preference learning.

Bio:
Roman Słowiński is a Professor and Founding Chair of the Laboratory of Intelligent Decision Support Systems at Poznań University of Technology, and a Professor in the Systems Research Institute of the Polish Academy of Sciences. As a full member of the Polish Academy of Sciences he has been elected its Vice-President for the term 2019-2022. He is also a member of Academia Europaea and Fellow of IEEE, IRSS, INFORMS, IFIP and IFORS. In his research, he combines Operational Research and Artificial Intelligence for Decision Aiding. Recipient of the EURO Gold Medal by the European Association of Operational Research Societies, Officer of Academic Palms of France, and Doctor Honoris Causa of Polytechnic Faculty of Mons, University Paris Dauphine, Technical University of Crete, and Hellenic Mediterranean University. Laureate of the 2005 Prize of the Foundation for Polish Science, and the Humboldt Research Award 2023. Since 1999, he is the co-ordinating editor-in-chief of the European Journal of Operational Research (Elsevier).

We congratulate Professor Słowiński for the receipt of the "Humboldt-Forschungspreis" of the Alexander von Humboldt-Stiftung. Professor Słowiński will be hosted by Professor Steffen Rebennack

during the associated research stay.

Zoom-Meeting beitreten

https://kit-lecture.zoom.us/j/63851111433?pwd=TWdaWVBqRWs2RHlickQrdzROOFNsQT09
Kenncode: 336170
Meeting-ID: 638 5111 1433

Die Vorträge zum Operations Research wenden sich an alle Interessierten!

Bei Rückfragen wenden Sie sich bitte an:

Prof. Dr. Steffen Rebennack, Institut für Operations Research.