

Doctoral School of Information and Biomedical Technologies Polish Academy of Sciences

Domain: IT

SUBJECT: Multiple criteria decision making in medicine, management, engineering and environmental planning

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Assistant supervisors, contact:

Place of research: Systems Research Institute PAS

Recruitment & Selection: Interview

Number of positions: 1

Project Description

Many real-life problems of decision making involve simultaneous optimization of several conflicting objectives, e.g., in medicine: maximizing effects of treatment vs. minimizing side effects; in management: maximizing profit vs. minimizing costs and risks, etc. The decision maker needs to find a compromise between achieving satisfactory levels of different objectives. In practice, such problems are often reduced to single-objective optimization which implicitly imposes strict relations between objectives. However, when the price of error is high, it is necessary to analyze the space of decisions and consider preferences of the decision maker explicitly, which is the subject of MCDM (multiple criteria decision making) methodology. The goal of the project is to model a decision making problem of the student's choice as a multiobjective optimization problem and elaborate appropriate solution methods.

References

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