

ECML 2013 Workshop - Invited Talks

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A UNIFIED VIEW ON ROOTS OF IMPERFECTION (joint work with Tatiana V. Guy)

Decision making (DM), broadly interpreted as an active choice among alternatives, is ubiquitous. A range of normative theories has arisen aiming at support and analysis of DM. Classical Savage's axiomatisation led to Bayesian DM, which suits DM with a non-negligible uncertainty. Observed discrepancies between recommendations of the normative theory and DM practice represent the major challenge of the related research.

The talk discusses these discrepancies, and: a) respects the presence of imperfect decision maker; b) considers neglecting of importance of closed-loop behaviour as their major cause; c) provides tasks where a) and b) do matter and where a unified view on imperfection roots can help.

These tasks include: i) preference elicitation, which can be converted into the Bayesian learning; ii) "non-rationality" caused by a difference arising from the difference of DM preferences declared and preferences respected by a real decision maker; iii) influence of human emotions on DM; iv) differences between a theoretically optimal game strategy (for example in ultimatum game) and strategies used by human players; v) respecting limitations on deliberation effort within DM by using the framework of sequential DM; vi) other cases.

The above list indicates that our talk will offer more hypothesis and open questions, than answers, so an active discussion is appreciated.