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EDITORIAL

Editorial 28/4

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Dear readers,

Artificial Intelligence is a challenging subject in particular as it often addresses problems that are difficult to formalize rigorously. The intention is mainly to enable computers to engage in tasks of empirical nature such as human decision making, reacting on noisy observations in the environment, or "intelligent" human-computer interaction.

The present issue of our journal reflects this orientation towards applications in various fields. We are happy that this trend will continue in the next issues as further manuscripts on applied AI topics have been submitted and if the review process will be finished successfully will appear in forthcoming issues.

Finding reviewers for manuscripts of this kind is a difficult task. It is not easy to find experts both in AI and the application field addressed in a submission. I remember a colleague telling me that he submitted a paper to a prestigious AI conference in which he presented a path planning algorithm for sightseeing tours. His algorithm allows users to modify a computed tour according to their preferences. Intuitively, one would say that this feature is necessary to simulate the human way to plan a sightseeing tour. An evaluation of the system based on this algorithm shows that the feature is used by most of the users that tested the application. However, one of the reviewers of the submission criticized that the feature was not necessary as a path planning algorithm is able to compute shortest paths without interaction by the user and that the feature violated the optimality property of path planning.

Of course, the reviewer is right from a mathematical point of view. On the other hand, I believe that the author is right as well from a application (or user-centered) point of view. This short story illustrates why is it difficult to find reviewers. Beyond that, it illustrates that in AI bridges have to be built between both perspectives. This is a challenging research task as complicated algorithmic and mathematical ideas have to be combined with a deep understanding of the application domain. It is interesting to see that Federico Pecora in his contribution to this issue addresses this problem from the perspective of robotics instead of human-computer interaction and comes to similar conclusions: deep understanding of the application implies deep reasoning AI solutions have to provide in order to enhance the state of the art.

With this idea in mind, I wish you a pleasant reading of the new issue and good ideas for (re-)integrating AI and powerful theoretical models for interesting applications.

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