

How can we improve human-AI interaction in the context of teamwork?

The value of human-AI teamwork has been recently demonstrated. Humans and AI have very different characteristics that, when effectively brought together, can excel the performance of them alone while complementing each other. Humans and AI can then put together different capabilities and work on interdependent tasks in order to achieve certain goals.

However, building human-AI teams can be quite challenging. First, the team has to agree on the common goals and the team's best approach to achieve these goals. For this, the team has to split the goals and tasks into smaller sub-goals and sub-tasks, allocate the tasks among the team members, and plan how these tasks and team members will be coordinated, both in time and resource-wise. All this is a dynamic process, and it is important that team members are on the same page and trust each other and the team. This is only possible when team members find good ways to interact with each other. Consequently, efficient and effective interaction between team members is crucial.

In this Master topic, we will explore how we can improve human-AI interaction in the context of teamwork. For example, how can an artificial agent automatically detect human confusion or insecurity with respect to performed or recommended actions? And what can it do to help? Or can the agent adjust its behavior and interaction style based on detected human personality traits? And how do different communication choices and styles impact the performance of the team?

If you are interested in one or more of these topics, reach out to us! We'll set up a meeting to discuss your interests and what specific research topic would fit.

Recommended courses:

Social Signal Processing, Socio-Cognitive Engineering, AI Techniques

Supervisory team

This project will be coached by Myrthe Tielman (an assistant-professor at the Interactive Intelligence group), Carolina Jorge and/or Ruben Verhagen (both PhD students at the Interactive Intelligence group).

Contact

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