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Keynote talk: **Human-Centered AI to foster Trustworthy AI**

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We are again in an AI spring, perhaps even already in an AI summer, thanks to the successes of statistical probabilistic machine learning. However, if we look at the world of robotics or cyber-physical systems as an example, we will find that often seemingly simple problems are not solvable or only insufficiently solvable. This is directly related to robustness, because perturbations in the input data can have dramatic effects on the output and lead to completely different results. This is relevant in all critical domains where we work with real data from our environment, i.e. where we do not have i.i.d. laboratory data. Therefore, the use of AI in real domains that impact human life (agriculture, climate, forestry, health, etc.) has led to an increased demand for trustworthy AI. In sensitive domains where traceability, transparency, and interpretability are required, explainable AI (XAI) is now even essential due to regulatory requirements. One approach to making AI more robust is to combine statistical learning with knowledge representations. And this is where interactive machine learning can help. For certain tasks, it can be beneficial to include a human in the loop. A human expert can sometimes - not always, of course - bring experience and conceptual understanding to the AI pipeline. Such approaches are not only a solution from a legal perspective, but in many application areas the question of "why" is often more important than a pure classification result. Consequently, both explainability and robustness can promote reliability and trust and ensure that humans remain in control, thus complementing - rather than replacing - human intelligence with artificial intelligence.