

From Machine Learning to Machine Teaching (ML2MT) - Making Machines AND Humans Smarter

Initiative: Künstliche Intelligenz – Ihre Auswirkungen auf die Gesellschaft von morgen

Ausschreibung: Künstliche Intelligenz – Ihre Auswirkungen auf die Gesellschaft von morgen - Planning Grant

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Machine Learning (ML) has proven to be a superior technique for predictions and classifications. Computer science typically aims at improving the algorithms on the machine side. However, research that ties these improvements back to human knowledge generation is scarce. The project ML2MT aims to use ML to identify predictive patterns and confronts experts and decision makers with these patterns if these humans were not able to recognize the predictive power ex-ante. This confrontation with contradictory results could be helpful to improve learning and knowledge generation on the human side. AlphaGo Zero can serve as an illustrative example: The system did not use information of human-played Go matches (like predecessors) but identified successful strategies by the means of reinforcement learning and suddenly it came up with striking strategies that even the best Go players did not immediately understand. But these strategies made sense after the experts analysed them in detail. This human-computer-interaction generated totally new insights and opened access to a new area of previously unseen strategies. The project will build upon this idea, design and evaluate different approaches to maximize human learning while considering juridical questions. The consortium will start with the application area medical diagnosis and then extend it to economic decision making.

Projektbeteiligte

Prof. Dr. Oliver Hinz

Universität Frankfurt am Main
Fachbereich Wirtschaftswissenschaften
Abteilung Wirtschaftsinformatik &
Informationsmanagement
Frankfurt am Main

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How and what can Humans Learn from being in the Loop? - Invoking Contradiction Learning as Measure to Make Humans Smarter
Machine Learning Sentiment Analysis, COVID-19 News and Stock Market Reactions

