Abstract

Title: Understanding the dynamics of human reliance and trust on automation

Abstract: Currently, most of the autonomous vehicles are designed to be used in conjunction with human operators. Since the driving performance of humans can degrade with factors like stress and workload, the decision to assign some tasks to an automation can lead to better driving performance. We trained a machine learning model, with data from a previous study on simulated driving with an automated driving assistant, to predict whether a human operator will use the driving assistance at a given time. We obtained the most important features driving human reliance on automation and use them to make associations between reliance and trust. We also analyze the dynamics of reliance in automation under different conditions and propose a definition of trust in automation based on experimental data.