

Stefan Buijsman (TU Delft), 06.04.22

Scientific explanations from Machine Learning?

Machine learning is used more and more in scientific contexts, from the recent breakthroughs with AlphaFold2 in protein fold prediction to the use of ML in parametrization for large climate/astronomy models. Yet the opacity and correlative nature of machine learning poses the question: can we obtain scientific (which I'll understand as causal) explanations from such models? A number of philosophers have recently argued in favour, but as I'll aim to show have failed to identify concrete causal explanations that directly result from our use of ML. To see whether such explanations would be possible I link literature on causal inference to the philosophical accounts of explanation.