

Kolloquium „Statistische Methoden in der empirischen Forschung“

Wann: 26. November 2024, 17:00 – 18:30 Uhr

Wo: [Campus Charité Mitte | Raum 02.002 | Sauerbruchweg 3, 10117 Berlin](#)

Online-Übertragung: der Link wird auf der [Website](#) zur Verfügung gestellt

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The importance of explainability of statistical models in consulting projects

Typically there is a very strong focus on predictive performance in predictive analytics. Some people even argue that it is fine to work with a black-box model if the goodness of fit metrics are fully satisfying. Experience from several years in consulting for companies and other institutions from a wide range of industries shows however that explainability is also a very important factor for many clients.

According to the EU Artificial Intelligence Act there should always be someone responsible (“provider accountability”) for automated processes leveraging AI or ML. It is pretty obvious that being accountable for an algorithm drives the desire to not only know that the algorithm delivers good performance overall, but also to understand how the algorithm works in detail. The latter is key when it comes to understanding and anticipating how the algorithm will behave for individual observations. But even before that compliance perspective has been added, understanding the patterns that the algorithm has extracted from the data was important to create “trust”. At the same time it helped to validate the algorithm and identify issues with omitted variables or differentiation between correlation and causality. Explainability can generate important insights that could help to better understand processes or business in general, so that benefits can go beyond the actual use case of an automated process.

While classical statistical models typically allow a straightforward interpretation of the underlying effects, ML/AI models are often black-boxes. According to our perception, methods of explainable artificial intelligence (XAI) added what was missing to unleash the full potential of ML/AI in production. In this talk we briefly review the concept of SHAP as an example for XAI and present various use-cases to demonstrate the relevance of shedding light into the black-boxes of ML/AI models.