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FAKULTÄT
FÜR MATHEMATIK, INFORMATIK
UND NATURWISSENSCHAFTEN
Fachbereich Mathematik

Kolloquium über Mathematische Statistik und Stochastische Prozesse

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Deep Learning the hidden life of particles

Studying the elementary constituents of matter in modern particle colliders such as the Large Hadron Collider (LHC) at CERN produces unprecedented amounts of scientific data. At the same time, powerful simulations of fundamental processes and their interactions with detectors are needed to allow the design of sophisticated analyses. Machine learning and especially deep learning consequently play an increasingly important role in all stages of particle physics research: from real-time decision making, over reconstruction, object identification, and simulation. After introducing the scientific environment, I will highlight some recent developments of potentially wider interest, focusing on methods for detecting anomalies and outliers, generative models and their statistics, and applications for automatic decorrelation of observables.

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Hinweis: Im WiSe 2020/2021 wird das Kolloquium online via BigBlueButton durchgeführt. Anmeldungen bitte über die genannte Kontaktperson.