INSTITUTE FOR COMPUTATIONAL PHYSICS

Universität Stuttgart

Einladung zum ICP-Kolloquium (online)

via zoom https://us06web.zoom.us/j/81009009100?pwd=OVhTcnR1eEluaWdpZ1VSenBYQS9oQT09
Meeting-ID: 810 0900 9100, Kenncode: 943248

SONDERTERMIN

Dr. Sven Krippendorf
Arnold Sommerfeld Center for Theoretical Physics, München

hält am

Dienstag, 5.10.2021, 14:00 Uhr

einen Vortrag über das Thema:

“Theoretical Physicists' Biases Meet Machine Learning”

Abstract:
Many recent successes in machine learning (ML) resemble the success story in theoretical particle physics of utilising symmetries as organising principle. I discuss an introductory example where this procedure applied in ML leads to new insights to PDEs in mathematical physics, more precisely for the study of Calabi-Yau metrics. Then I discuss methods on how to identify symmetries of a system without requiring knowledge about such symmetries, including also how to find a Lax pair/connection associated with integrable systems. If time permits, I discuss how latent representations in neural networks can offer a close resemblance of variables used in dual descriptions established analytically in physical systems.

Interessenten sind herzlich eingeladen.

Prof. Dr. C. Holm
Apl. Prof. Dr. R. Hilfer
Apl. Prof. Dr. M. Fyta