Einladung zum
Würzburger Mathematischen Kolloquium

Julius-Maximilians-Universität Würzburg • Fakultät für Mathematik und Informatik

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The Mathematics of Deep Learning: Can we Open the Black Box of Deep Neural Networks?

Dienstag, der 15. Juni 2021 • 14:15 Uhr

Der Vortrag findet als Zoom-Videokonferenzen statt.
Bitte fordern Sie den Zoom-Link an bei klingenberg@mathematik.uni-wuerzburg.de

Inhaltsangabe:

Despite the outstanding success of deep neural networks in real-world applications, ranging from public life to science, most of the related research is empirically driven and a comprehensive mathematical foundation is still missing. At the same time, these methods have already shown their impressive potential in mathematical research areas such as inverse problems or numerical analysis of partial differential equations, sometimes by far outperforming classical mathematical approaches for particular problem classes.

In this talk, we will first provide an introduction into this new vibrant research area. We will then survey recent advances in two directions, namely the development of a mathematical foundation of deep learning and the introduction of novel deep learning-based approaches to mathematical problem classes. We will in particular delve a bit deeper into the area of expressivity, namely the approximation capacity of neural network architectures as one of the most developed mathematical theories so far.

https://www.mathematik.uni-wuerzburg.de/de/aktuelles/kolloquium/

Alle sind herzlich eingeladen.

Die Dozentinnen und Dozenten der Mathematik