A U S H A N G

FREIE UNIVERSITÄT BERLIN

Fachbereich Mathematik und Informatik

Promotionsbüro, Arnimallee 14, 14195 Berlin

D I S P U T A T I O N

Donnerstag, 23. Mai 2019, 16:15 Uhr

Ort: Seminarraum 007/008

(Fachbereich Mathematik und Informatik, Arnimallee 6, 14195 Berlin)

Disputation über die Doktorarbeit von

Herrn Tobias Martin Kies

Thema der Dissertation:

Gradient Methods for Membrane-Mediated Particle Interactions

Thema der Disputation:

Equilibrium finding and abstraction in games of imperfect information

Die Arbeit wurde unter der Betreuung von **Prof. Dr. R. Kornhuber** durchgeführt.

Abstract:
In early 2017, roughly one year after the debut of Google's famous AI AlphaGo, the field of AI hit yet another significant milestone when the computer program Libratus became the first software to reach a super-human skill level at playing the game of heads-up no-limit Texas hold 'em poker. A remarkable property of Libratus is that it is almost entirely based on game theoretic principles only and that it does not rely on popular machine learning methods such as artificial neural networks at all. Moreover, the involved solution methods directly generalize to the larger class of imperfect information games, which finds application in numerous real-world applications that go beyond games in the recreational sense.

Inspired by this breakthrough, this talk aims at giving a brief introduction to various basics and core concepts relevant to the theory and practical solving of imperfect information games. Afterwards, the subject of algorithmic computation of equilibrium game strategies is visited, as well as a framework for abstracting games into smaller ones.

Die Disputation besteht aus dem o. g. Vortrag, danach der Vorstellung der Dissertation einschließlich jeweils anschließenden Aussprachen.

Interessierte werden hiermit herzlich eingeladen

Der Vorsitzende der Promotionskommission
Prof. Dr. R. Kornhuber