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

Freitag, 5. Juli 2024, 13:00 Uhr

Ort: Seminarraum 049
(Fachbereich Mathematik und Informatik, Takustr. 9, 14195 Berlin)

Disputation über die Doktorarbeit von

Anna Kristina Thedinga

Thema der Dissertation:
Machine Learning for Cancer Survival Prediction

Thema der Disputation:
Learning on Graphs: Node Representation Learning with Node2vec

Die Arbeit wurde unter der Betreuung von **Prof. Dr. M. Vingron** durchgeführt.

Abstract: Graphs are powerful data structures that can capture interactions between objects, such as relationships between individuals in a social network or interactions between proteins in a protein-protein interaction network. However, these interactions make machine learning on graphs a challenging task because objects cannot be regarded as independent entities as in most standard machine learning tasks. Instead, node representation learning methods can be used to learn low-dimensional vector representations that capture interactions between objects, which are represented by nodes, and their structural context within the graph.

In my first talk, I will discuss node representation learning using node2vec as a prime example. Node2vec employs biased random walks in conjunction with the skip-gram model to generate node embeddings that can effectively capture different types of network neighborhoods of the nodes in the graph. After explaining the methodology of node2vec, I will also briefly discuss its advantages and limitations.

The second talk will be a summary of my dissertation, in which I explored machine learning for cancer survival prediction. In this talk, I will first introduce my research questions and then briefly discuss the methodology and findings of my dissertation with respect to each of these questions.

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. M. Vingron