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

Mittwoch, 23. September 2020, 17:00 Uhr

[WebEx](#)

Disputation über die Doktorarbeit von

Frau Hannah Greta Sjöberg

Thema der Dissertation:
On Face Vector Sets and on Alcoved Polytopes

Thema der Disputation:
Geometry of Support Vector Machines

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

Abstract:
Support Vector Machines (SVMs) are a class of supervised machine learning algorithms mainly used for classification problems.
Research on Support Vector Machines started in the early 1960s through work by Vapnik and Chervonenkis. In their current form, SVMs were introduced by Boser, Cortes, Guyon and Vapnik in the 1990s.
They are today among the most common machine learning classifiers.
In a binary classification problem, we have a space with points that belong to two different categories. To classify new points into one of these categories, the Support Vector Machine takes as input the set of labeled points (the training set) and outputs a hyperplane that divides the space into two regions.
In this talk we focus on the geometric aspects of SVM classifiers. We will look at soft margins, reduced convex hulls and the kernel trick.

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. G. M. Ziegler