MATEMATISKA INSTITUTIONEN
STOCKHOLMS UNIVERSITET
Avd. Matematik

SJÄLVSTÄNDIGT ARBETE I MATEMATIK

Fredagen den 24 april kl. 10.30–11.40 presenterar Anna-Karin Hermansson sitt arbete "How does the Perceptron find a solution?" (15 högskolepoäng, grundnivå).

Handledare: Martin Tamm

Plats: Sal 32, hus 5, Kräftriket

Sammanfattning: Artificial neural net models are a type of algorithms that have been studied for many years, in the hope of achieving human-like performance in areas such as speech- and image recognition. These models are composed by many nonlinear computational elements working in parallel and arranged in patterns with inspiration from biological neural nets. These computational elements or nodes are interconnected via weights who typically adapt themselves during use in the purpose of improving performance. In this report, I will focus on an algorithm created by nets which uses a method called Optimum minimum-error in order to classify binary patterns. More specifically, the Perceptron, a highly parallel building block which illustrates neural-net components and demonstrates principles which can be used to form more complex systems. I will first discuss the theory behind the simpler form of the perceptron, then move on to more complex networks and finally show an implementation example of a network used for image recognition.

Alla intresserade är välkomna!