

Function Approximation with Neural Networks under the Restriction of Bounded Weights

Katharina Eller

July 9, 2018

Abstract

The research on neural networks has always been driven by their practical success, thus the models we develop should be judged upon their applicability in reality. One aspect is to assure that our models are implementable. This includes the question, whether the weights in our constructions are encodable. In particular, this requires bounded weights.

In this talk we will present an approach to leverage existing approximation results for ReLU-neural networks with possibly unbounded weights to constructions with weights in $[-1, 1]$. Afterwards a generalization of this approach to other activation functions and limitations are discussed.