Deep Learning with Stacked AEs & RBMs

DD2437 - Artificial Neural Networks & Deep Architectures - Lab 4

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This lab will examine two different artificial neural network structures, Auto Encodes (AE) and Restricted Boltzmann Machines (RBM). Their effectiveness in a learning task and the effect of the layer depth of the models will be tested and evaluated.

1 Feature learning

In this first task shallow versions of both models are trained as benchmarks for the later deeper versions. The dataset used is a subset of the MNIST dataset containing 28×28 images of handwritten digits from 0 to 9 together with correct labels of the written digit. All the pixel values has for simplicity's sake been converted to binary values via simple thresholding.

RBM training results