Hauptseminar Quantum Statistical Physics
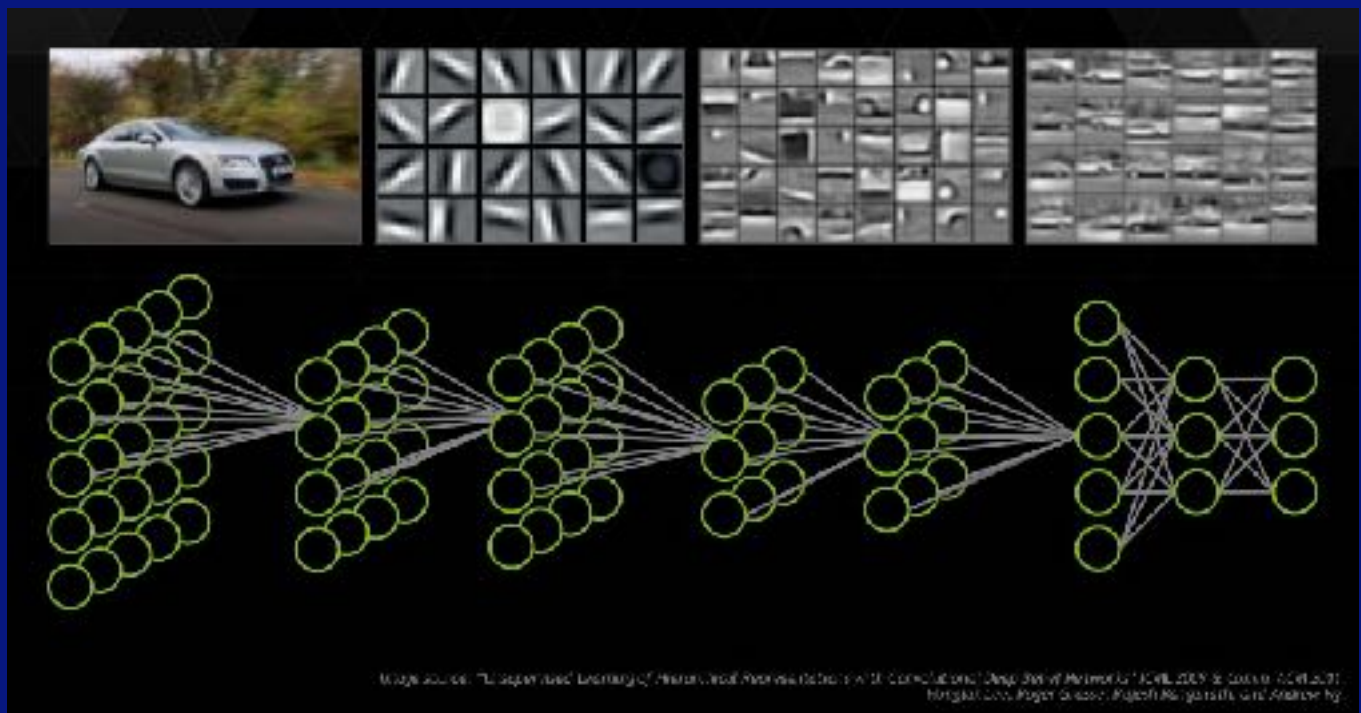
Neural Networks and Deep Learning

Prof. Dr. Bernd Rosenow, ITP Universität Leipzig
Summer Term 2019, Wednesdays 15:15-16:45, SR 210
First meeting on April 3rd 15:15, SR 210

Your presentations will form an introduction to deep learning and cover topics like the training of deep neural networks as well as applications to image recognition, time series prediction, and statistical physics. Possible topics for presentations are

• architecture of neural networks, backpropagation algorithm, cross-entropy cost functions, universality of neural networks

• convolutional networks for image recognition, long short-term memory networks for time series prediction, Boltzmann machines for statistical physics

Seminar talks will include demonstrations and programming of neural networks using the Matlab deep learning toolbox. An introduction to Matlab will be part of the seminar.

adapted from www.nvidia.com

Further information under http://www.uni-leipzig.de/~stp/courses.html