



Vienna School  
of Mathematics

# PhD Colloquium

*Axel Böhm:*

## How Machines Learn

(or, minimizing training loss)

We will analyze how deep *deep learning* really is; from the point of view of optimization. I will give a gentle introduction into neural networks, linear regression, stochastic gradient descent (SGD) and its variants - most notably ADAM - backpropagation and other mysterious objects from Machine Learning. After this we'll make our way to *Generative Adversarial Networks (GAN)* - not only because they have been called the most interesting idea in Machine Learning in the last decade but also due to the fact that they are intriguing from the standpoint of optimization.

15. January,

15:00 - 15:45

SkyLounge, OMP-1