



NEURODISCUSSIONS

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Inspiration from Brains for Deep Learning and Inspiration from Deep Learning for Brains

Résumé

What generic principles may explain natural intelligence while making it possible to build artificial intelligence? This talk explores this question through two angles: how brains have inspired deep learning, and how deep learning may inspire neuroscience. For the first angle, we discuss low level architectural elements like neural non-linearities or the relation between spikes and dropout or activity quantization, as well as high-level cognitive elements like curriculum learning, attention mechanisms, and memory mechanisms. For the second angle, we discuss the search for biologically plausible analogues of back-propagation, a machine learning view on consciousness, and questions around how brains could implement system 2 cognitive abilities.

Date: **Mardi, 2 avril 2019**

Heure: 16 h

Lieu: Salle 1120, Pavillon Paul-G.-Desmarais