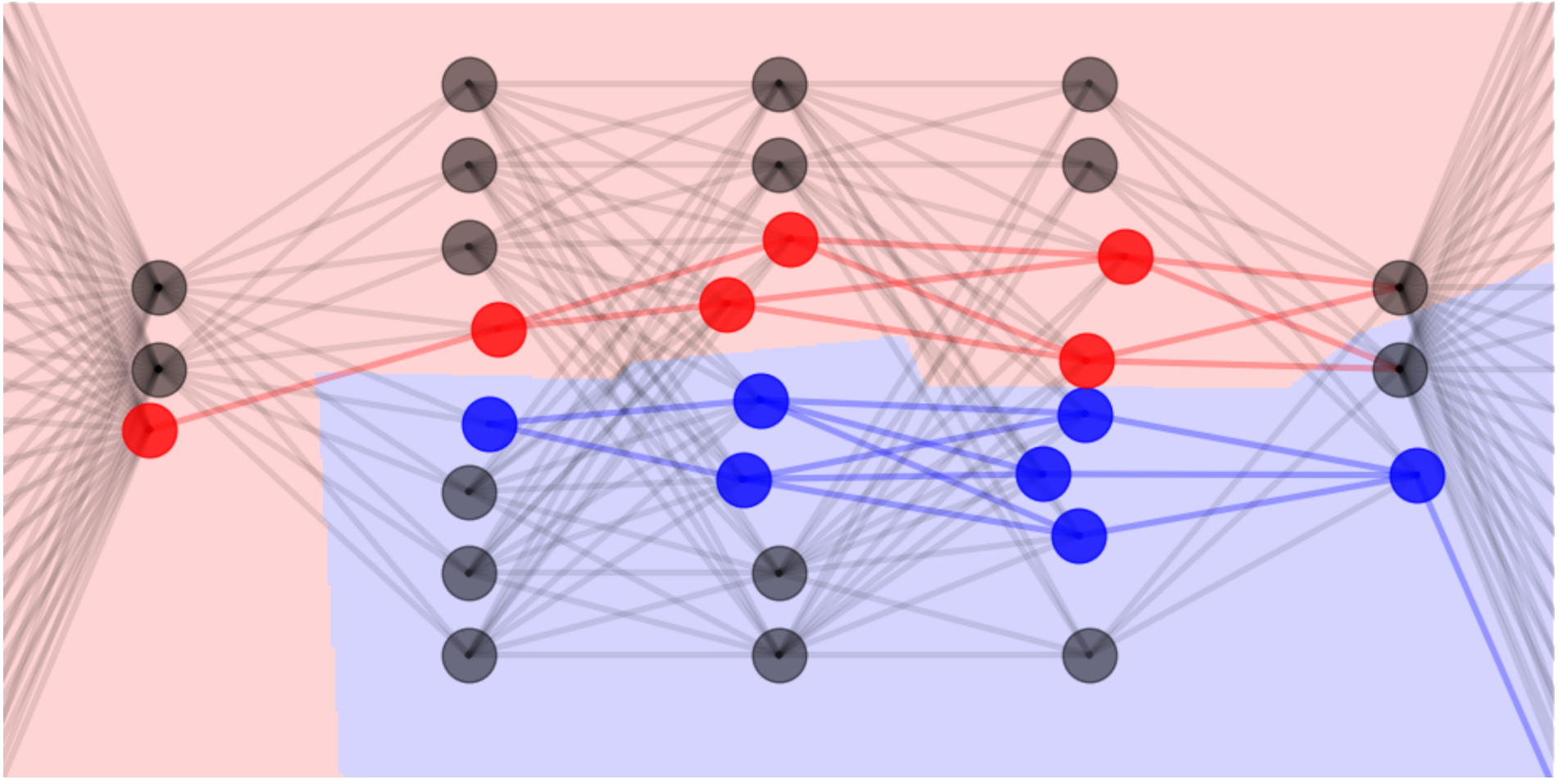
TU-Delft Machine and Deep Learning



Course logistics

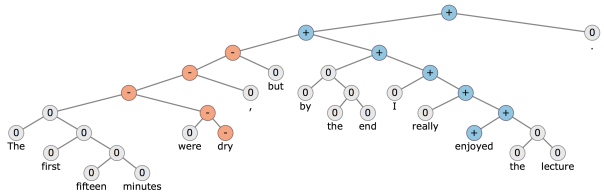
Lecture 0

Lecturer: Jan van Gemert

Why Deep Learning?

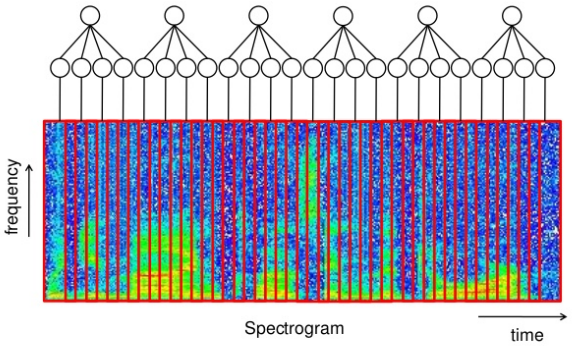
Image: Google Research Blog

Image



Text

Convolutional DBN for audio



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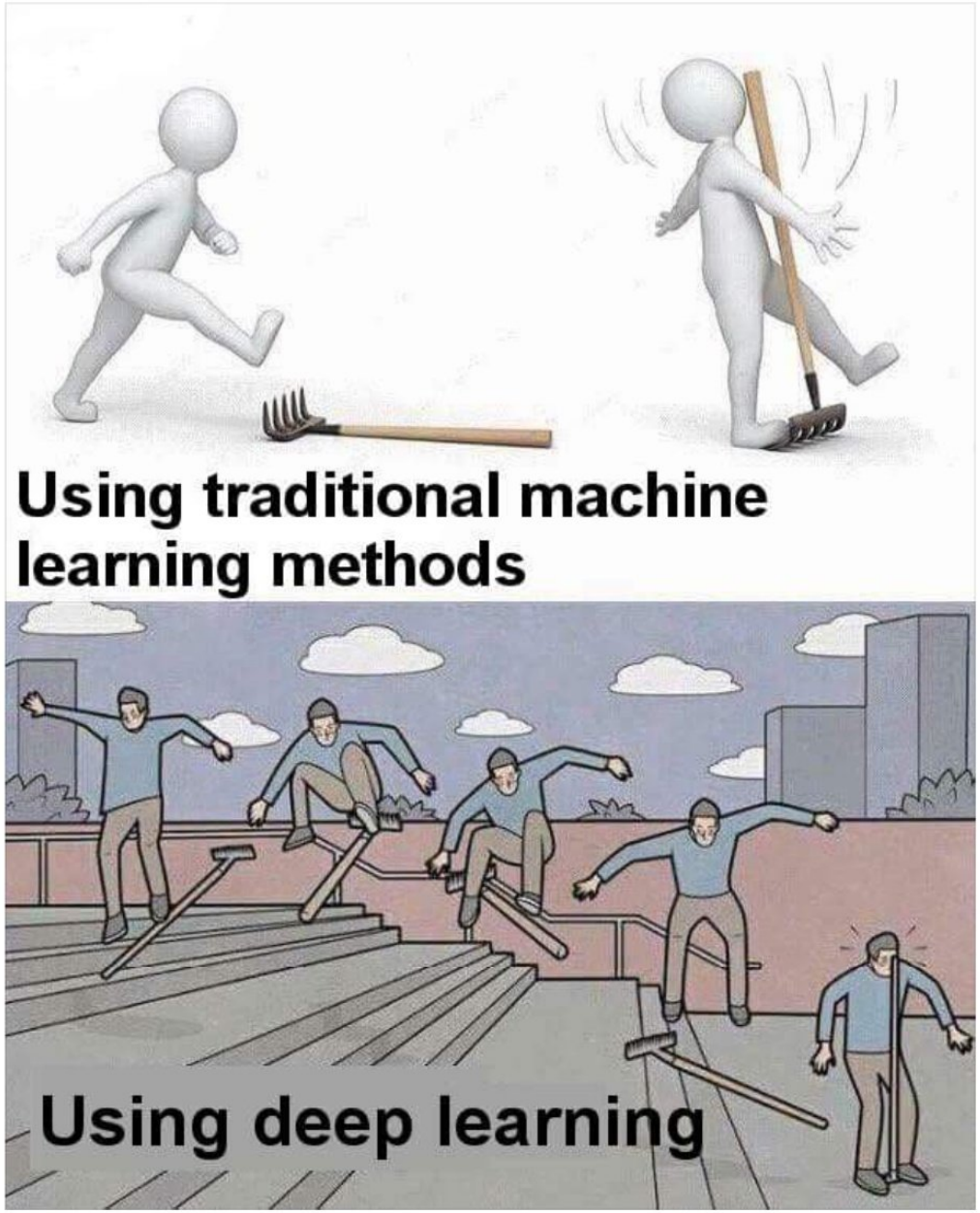
Speech

Go

Deep learning and Machine learning "Stepping vs. Jumping On A Rake" meme



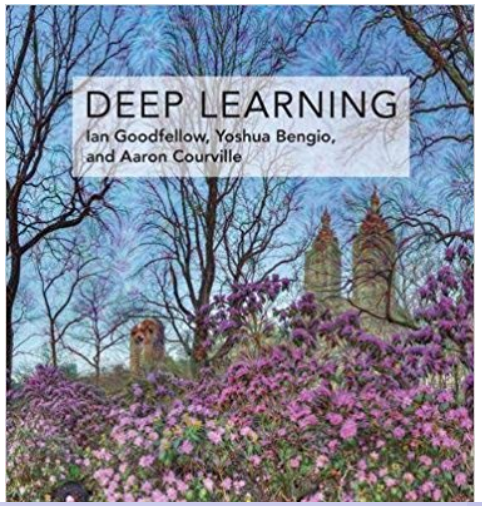
Books and topics considered (Additional material uploaded to Brightspace, when needed)

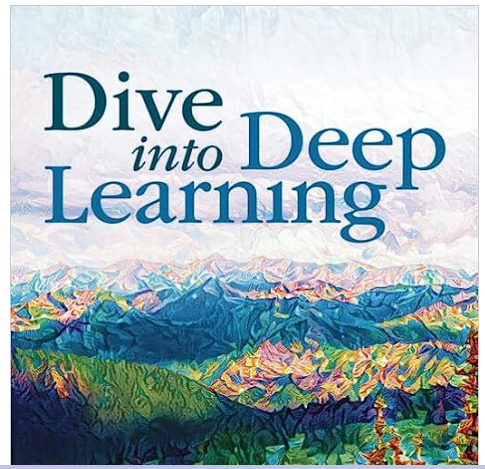
Books:

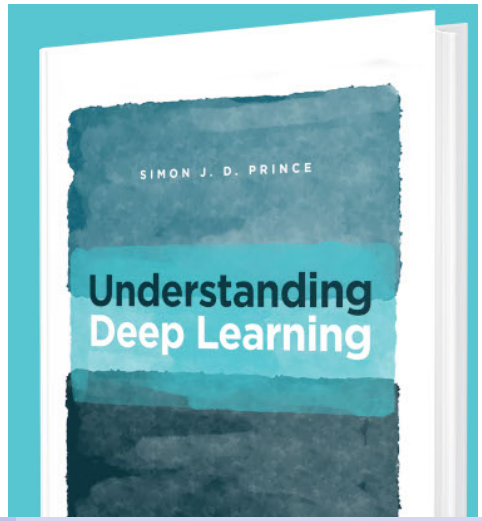
DL:	"Deep Learning"	http://www.deeplearningbook.org/
D2L:	"Dive into Deep Learning"	http://d2l.ai/
UDL:	"Understanding Deep Learning"	https://udlbook.github.io/udlbook/

Topics:

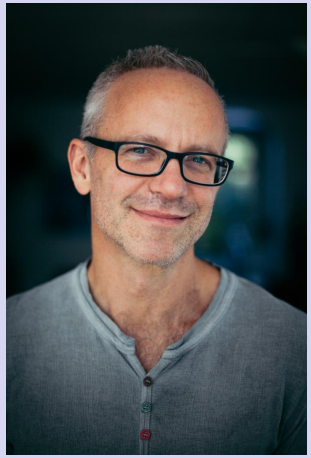
- Intro; Feed-forward
- Backprop; Losses
- CNNs
- Optimization
- Recurrent networks
- Self-Attention
- Unsupervised
- Foundation models







Whoami: Jan van Gemert

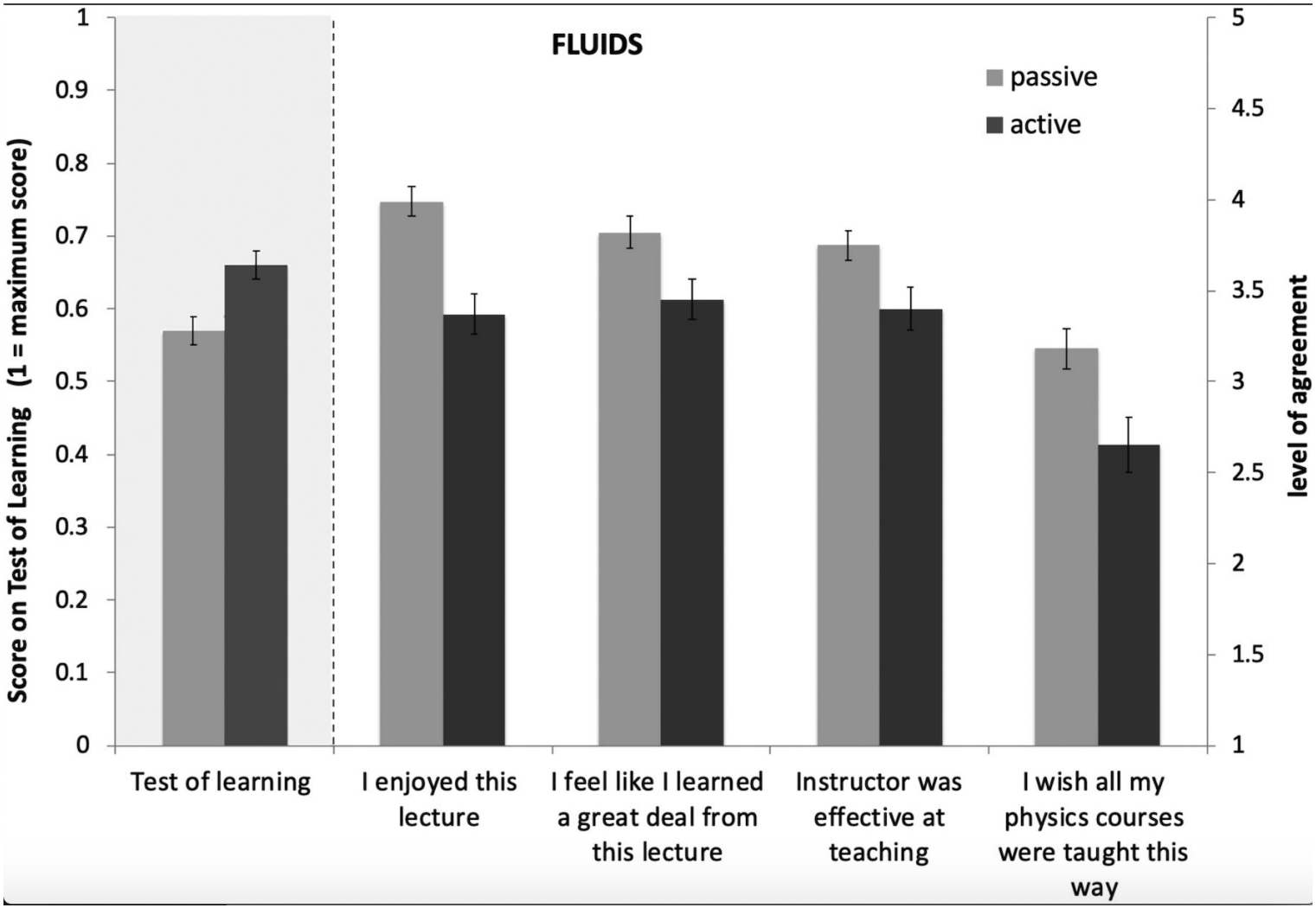


- BSc Computer Science @ Fontys
- MSc Artificial Intelligence @ UvA
- PhD Computer Vision @ UvA
- Researcher @ ÉNS, Paris & @ UvA
- Head Computer Vision lab @ TUD

Two main research themes:

1. Fundamental, empirical, understanding-based deep learning research (to)
2. Increase data-efficiency to allow visual AI model training outside big tech.

Teaching style: Activate you



https://www.insidehighered.com/news/2019/09/09/study-how-smooth-talking-professors-can-lull-students-thinking-they

Course info on Brightspace

- Lectures
- Lab
- Exam
- FAQ
- Forum for asking questions on: Lab/lectures/general

Questions?