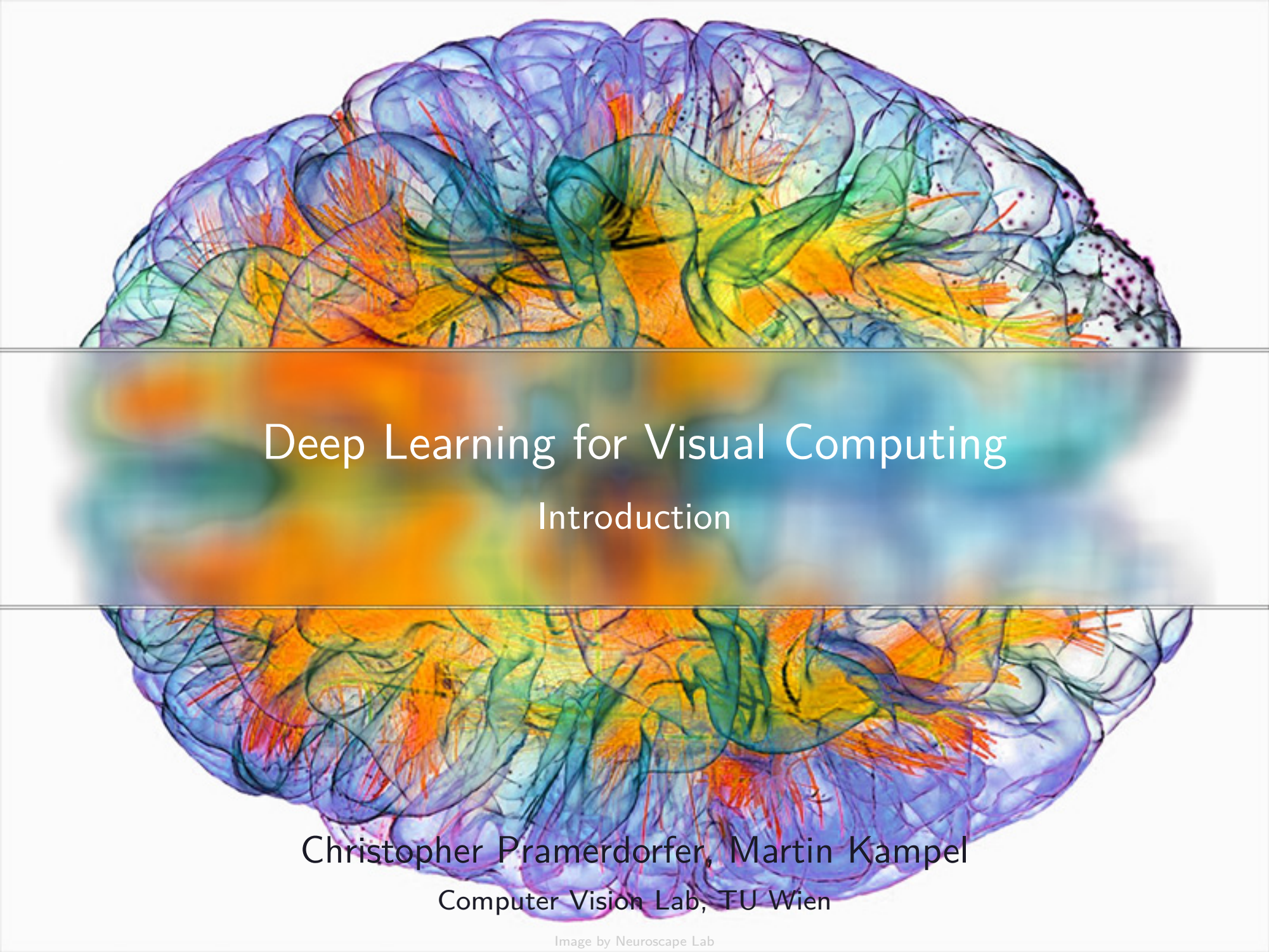

Deep Learning for Visual Computing

Introduction

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Computer Vision Lab, TU Wien

Image by Neuroscape Lab

Introduction

How does this work?

Introduction

Deep Learning / Convolutional Neural Networks

Course Introduction

Goals

- Understand how (and why) Deep Learning works
- Apply Deep Learning for solving problems

Lecture Topics

Recap of computer vision and image processing

Machine learning: overview, parametric models, optimization

Feedforward neural networks, backpropagation

Convolutional neural networks and their applications

Autoencoders, recurrent neural networks

Deep learning in practice

Slides and assignment specs in English

Lecture in German or English (if required)

Assignments

Apply what you've learned in the lecture

Three or four assignments

- Code small application (Python, Matlab, Java, Lua)
- Write short report explaining what you did
- Reference available (Python)
- Discussed in the lectures
- Alone or group of two

Prerequisites

Be a Master's or PhD student

Proficiency in Matlab, Python, Java, or Lua

Basic knowledge of statistics, linear algebra, calculus

Basic knowledge of image processing and machine learning

Modules

066 931 Logic and Computation

- Knowledge Representation and Artificial Intelligence

066 932 Visual Computing

- Mustererkennung – Vertiefung

066 935 Medieninformatik

- Media Understanding

066 936 Medizinische Informatik

- Informationsverarbeitung

Location and Schedule

Vary!

- Check course website frequently
- Follow us on Twitter for updates

First lecture: Friday 14th, 13:15 at EI8

Grading

Assignments (50%)

Written exam (50%)

- 60 minutes
- List of questions available
- German or English

Both must be positive to pass

Course if worth 2 hours / 3 ECTS

Support

After lectures

Mail: dlvc@caa.tuwien.ac.at

Twitter: @tuwdlvu

Registration

Register via TISS (registration closes today at 23:00)