## Learning outcome, core skills:

Students

- learn concepts and techniques of deep learning and understand their advantages and disadvantages compared to alternative approaches
- learn to solve practical data science problems using deep learning
- implement deep learning techniques like multi-layer perceptrons, convolutional neural networks and other modern deep learning architectures
- learn techniques for optimization and regularization of deep neural networks
- learn applications of deep neural networks for computer vision tasks such as segmentation and object detection

## Workload:

<table>
<thead>
<tr>
<th>Attendance time:</th>
<th>56 h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-study time:</td>
<td>124 h</td>
</tr>
</tbody>
</table>

## Course: B.Inf.1237.Lec Deep Learning for Computer Vision (Lecture)


## Examination: Written examination (90 minutes)

B.Inf.1237.Mp: Deep Learning for Computer Vision

## Examination prerequisites:

B.Inf.1237.Ex: At least 50% of homework exercises solved and N-1 attempts presented to tutors

## Examination requirements:

Knowledge of basic deep learning techniques, their advantages and disadvantages and approaches to optimization and regularization. Ability to implement these techniques.

## Course: B.Inf.1237.Ex Deep Learning for Computer Vision - Exercise (Exercise)

Contents:

Students present their solutions of the homework exercises to tutors and discuss them with their tutors.

## Admission requirements:

none

## Recommended previous knowledge:

Basic knowledge of linear algebra and probability

Completion of B.Inf.1236 Machine Learning or equivalent

## Language:

English

## Person responsible for module:

Prof. Dr. Constantin Pape

Prof. Dr. Alexander Ecker

## Course frequency:

each winter semester

## Duration:

1 semester[s]

## Number of repeat examinations permitted:

twice

## Recommended semester:

5

## Maximum number of students:

1