Deep Learning: Neural Networks for Object Detection and Tracking Tasks

Seminar Paper

Brain Modelling

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Abstract

Deep neural networks are one of the most successful learning strategies at the moment as the computing power for creating such structures rised in the past years via GPU computing. Object detection and tracking tasks can be fulfilled with these architectures.

Contents

1 Introduction

Deep learning is subcategory of machine learning and the focus of this paper will be deep neural networks in the context of deep learning.
An overview of image classification will be made [1] [2].
The visual cortex and deep learning strategies will be introduced [3].
Approaches for object detection [4] and tracking [5] via deep neural networks will be discussed.

2 Background information: Artificial neural networks

Briefly introduction for classic artificial neural networks without GPU computing.

3 Deep neural networks

Overview for classic deep neural networks. Details about different concepts and approaches.

4 Convolutional neural networks

Description of convolutional neural networks. Further information about image classification tasks realized with CNNs.

5 Object detection and tracking

More details / information about state of the art object detection and tracking.

6 Conclusion

Conclusion of the paper.

References

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