Overview

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Course Info

Week 1

Advanced Computer Vision with TensorFlow

Week 1

Discuss the topic here.

21 threads · Last post 2 days ago

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Introduction to Computer Vision

Get a conceptual overview of image classification, object localization, object detection, and image segmentation. Also be able to describe multi-label classification, and distinguish between semantic segmentation and instance segmentation. In the rest of this course, you will apply TensorFlow to build object detection and image segmentation models.

⌃ Less

Learning Objectives

- Distinguish between object localization and object detection
- Distinguish between object detection and image segmentation
- Distinguish between semantic segmentation and instance segmentation
- Explain what is transfer learning and why it's used
- Describe design options when using transfer learning
- Implement object localization with a CNN
- Implement an image classifier with transfer learning

⌃ Less

Concepts in Computer Vision

▶ **Video:** Welcome to Course 3 7 min   **Resume**

▶ **Video:** Classification and Object Detection Intro 4 min

▶ **Video:** Segmentation Intro 2 min

▢ **Reading:** Pre-Requisite & References 10 min

▢ **Reading:** Connect with your mentors and fellow learners on Slack! 10 min

Transfer Learning

▶ **Video:** Why Transfer Learning? 4 min

▶ **Video:** What is Transfer Learning? 4 min

▶ **Video:** Options in Transfer Learning 3 min

▢ **Lab:** Transfer Learning 1h

Advanced Transfer Learning

▶ **Video:** Transfer Learning with ResNet50 3 min

▶ **Video:** ResNet50 in code 4 min

🗔 **Lab:** Transfer Learning with ResNet 50 1h

Object Localization and Detection

▶ **Video:** Network architecture for Object Localization 3 min

▶ **Video:** Evaluating Object Localization 2 min

🗔 **Lab:** Image Classification and Object Localization 1h

Week 1 Quiz: Introduction and Concepts of Computer Vision

▤ **Quiz:** Introduction and Concepts of Computer Vision 10 questions Due Mar 15, 1:59 AM CDT

Assignment: Bird Boxes

</> **Programming Assignment:** Bird Boxes 1h Due Mar 15, 1:59 AM CDT