Course Overview

PLEASE DON'T SKIP THIS LECTURE!

Computer Vision with Python

- Course Overview Lecture
  - Useful tips for going through the course
  - How to get help during the course
  - Advice on how to approach the course
  - Where to find the course notebooks
  - How to use the student chat channel

Useful Tips

- Use the video player settings to speed up or slow down videos.
- Use the Udemy App to download videos of course lectures.
- Make sure to make use of QA Forums, lots of previous discussion available there!

How to get help

- Platform level issues please email:
  - **support@udemy.com**
    - Video playback issues
    - Certification issues
    - Payment issues

How to get help

- Double check against course notebooks
- Quick Google or StackOverflow Search
- Search the QA Forums in the course
- Check out FAQ lecture
- Submit new question in QA forums
  - Details on what you've tried
  - Screenshot of error or code

How to get help

- Before posting to the QA forums please confirm:
  - **You are using our provided environment**
  - **You have tried running our provided notebooks**
- Often simple typos can cause errors, the two steps above will avoid any typos!

How to get help

- *Please keep in mind, we can **not** help with your personal computer vision projects outside of the course material!*
- However the Discord Chat channel is a great place to share your questions on your personal projects.

Student Chat Channel

- Use the link in the automated welcome message to join our discord server.
- The automated welcome message also includes a link to a YouTube video describing how to use and log in to the chat server.

How to approach course

- Best way to approach the course is review the notebooks along with the video
  - Notebooks contain code used in every lecture and are organized in the same order they appear in the course.
  - The video usually contains explanatory concepts that can’t be shown through code.

Course Notebooks

- Resource links to the notebooks can be found in the FAQ lecture.
- The Deep Learning Section does require some additional larger downloads not found in the zip file.
- The videos in that section will provide further details on that data.

Student Chat Channel

- Remember, purpose of chat channel is to connect students with other students.
- Technical questions related to course material are best suited for the QA forums.

THANK YOU!

Course Curriculum

Computer Vision with Python

- Before we begin the course, let's build an understanding of our learning path!
- This lecture will be brief overview of the main topics and structure of the curriculum of the course.

Computer Vision with Python

- Goals of this course:
  - Understand Computer Vision Applications.
  - Understand how to use OpenCV and Python work with Images and Videos.
  - Be able to apply these skills to your own projects.

Computer Vision with Python

- NumPy and Image Basics
  - Quick section on NumPy basics and how to manipulate images with it

Computer Vision with Python

- Image Basics with OpenCV
  - Begin to work with the OpenCV library with images.
  - Basic commands and drawings on images.

Computer Vision with Python

- Image Processing with OpenCV
  - Understand more advanced OpenCV operations that are useful in real world applications

Computer Vision with Python

- Video Processing with OpenCV
  - Understand the basics of working with video files and streaming webcam video with OpenCV library.

Computer Vision with Python

- Object Detection
  - Learn the various different methods of detecting objects in images and videos.
  - Start with basic template matching and work our way up to face detection.

Computer Vision with Python

- Object Tracking
  - Expand from our knowledge of object detection to tracking objects in videos.

Computer Vision with Python

- Deep Learning with Computer Vision
  - Begin to combine knowledge from previous sections with latest tools in Keras and Tensorflow for state of the art deep learning applications.

Computer Vision with Python

- The course is a very gradual build up in computer vision.
- This build up is important to creating a real understanding.
- This understanding of fundamental concepts will allow you to apply these skills to your own projects!

Let’s get started!

Course Installation and Setup

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Computer Vision with Python

- Let’s get you set up for the course!
  - Download and Install Anaconda
  - Create a virtual environment (*different files depending on your OS*)
  - Open JupyterLab
  - Work with both notebooks and .py scripts with JupyterLab

Computer Vision with Python

- Quick Note:
  - Advanced Users, please feel free to use any IDE you prefer!
  - We do however **highly** recommend using our suggested environment and tools to avoid issues along the way.

Computer Vision with Python

- This lecture has resource links. Make sure to download the appropriate .yml file for your Operating System.

Computer Vision with Python

https://www.anaconda.com/download/

Computer Vision with Python

- After installation we now need to download the libraries used for this course.
- The installation has installed the Anaconda Prompt command line tool.
- We'll be using it for these next steps.

Computer Vision with Python

- The next step is to **create** and **activate** the virtual environment we provided for you.
- This environment will download all the libraries you need for the course.
- Check the resource links for this lecture and download the appropriate .yml file for your OS.

Computer Vision with Python

- Keep track of the location of the .yml file!
- We will need to know its location in order to use it.
- Let's now go the the command line:
  - Search for **anaconda prompt** on your computer.