Python for Computer Vision with OpenCV and Deep Learning

Course Duration: 02 days (16 hours)

Course Outline

- **Chapter 00: Course Overview and Introduction**

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- **Chapter 01: NumPy and Image Basics**
- Understand basics of NumPy
- Manipulate and open Images with NumPy

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- **Chapter 02: Image Basics with OpenCV**
- Use OpenCV to work with image files
- Use Python and OpenCV to draw shapes on images and videos

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- **Chapter 03: Image Processing**
- Perform image manipulation with OpenCV, including smoothing, blurring, thresholding, and morphological operations.
- Create Color Histograms with OpenCV

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- **Chapter 04: Video Basics with Python and OpenCV**
- Open and Stream video with Python and OpenCV

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- **Chapter 05: Object Detection with OpenCV and Python**
- Detect Objects, like corner, edge, & grid detection techniques with OpenCV & Python
- Create Face Detection Software
- Segment Images with the Watershed Algorithm

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- **Chapter 06: Object Tracking**
- Track Objects in Video
- Use Python and Deep Learning to build image classifiers

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- **Chapter 07: Deep Learning for Computer Vision**
- Work with TensorFlow, Keras, and Python to train on your own custom images

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- **Chapter 08: Capstone Project**

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