



CERTIFICATE PROGRAM

Computer Vision

50+ Hours of Training | 12+ Projects | Online Course



CloudxLab & Course

At Cloudxlab, we are building one of the best gamified learning environments to make technology learning fun and for life. More than 50,000 users across the world have been benefited by our signature courses on Machine Learning and Big Data. Our vision is to upskill people on high-end technologies like Computer Vision, Deep Learning, Machine Learning, Big Data and make them employable.

Every domain of computing such as data analysis, software engineering, and artificial intelligence is going to be impacted by these new technologies. Therefore, every engineer, researcher, manager or scientist would be expected to know Computer Vision

So naturally, you are excited about Computer Vision and would love to dive into it. This course is designed for those who want to gain hands-on experience in solving real-life problems using Computer Vision. After finishing this course, you will find creative ways to apply your learning to your work.



Sandeep Giri

Founder at CloudxLab

Why CloudxLab



Earn a Verified Certificate from CloudxLab



Learn Computer Vision from industry experts and become expert in Deep Learning domain



Online cloud lab for hands-on for real-world experience



Best-in-class support Throughout your learning journey



Lifetime course access



Work on real-world projects.



Interact with the international community of peers via the discussion forum.

Course Creators



Sandeep Giri

Founder at CloudxLab

Past: Amazon, InMobi, D.E.Shaw

Course Developer

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Abhinav Singh

Co-Founder at CloudxLab

Past: Byjus

Course Developer

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Jatin Shah

Ex-LinkedIn, Yahoo,

Yale CS Ph.D. IIT-B

Course Advisor

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Praveen Pavithran

Co-Founder at Yatis

Past: YourCabs, Cypress Semiconductor

Course Advisor

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Course Curriculum

Course 1: Foundations

- Introduction to Linux
- Introduction to Python
- Hands-on using Jupyter on CloudxLab
- Overview of Linear Algebra
- Introduction to NumPy & Pandas

Course Curriculum

Course 2: Computer Vision

1. OpenCV

Introduction to Opencv, OpenCV Basics, OpenCV Basic Image Processing, OpenCV Histograms, Blurring with OpenCV, Thresholding with OpenCV, Detecting moving objects in Video with OpenCV, Edge Detection with OpenCV

2. Introduction to Artificial Neural Networks

From Biological to Artificial Neurons, Implementing MLPs using Keras with TensorFlow Backend, Fine-Tuning Neural Network Hyperparameters

3. Training Deep Neural Networks

The Vanishing / Exploding Gradients Problems, Reusing Pretrained Layers, using Faster Optimizers, Avoiding Overfitting Through Regularization, Practical Guidelines to Train Deep Neural Networks

4. Custom Models and Training with Tensorflow

A Quick Tour of TensorFlow, Using TensorFlow like Numpy, Customizing Models and Training Algorithms, Tensorflow Functions and Graphs

5. Loading and Preprocessing Data with TensorFlow

Introduction to the Data API, TFRecord Format, Preprocessing the Input Features, TF Transform, The TensorFlow Datasets (TDFS) Projects

6. Convolutional Neural Networks

The Architecture of the Visual Cortex, Convolutional Layer, Pooling Layer, CNN Architectures, Classification with Keras, Transfer Learning with Keras, Object Detection, YOLO

Projects

- Image Stitching using OpenCV and Python (Creating Panorama Project)
- Building Cat vs Non-Cat Image Classifier using NumPy
- How to Build a Neural Network for Image Classification with TensorFlow
- Training from Scratch vs Transfer Learning
- Working with Custom Loss Function
- Building a CNN Classifier using TensorFlow 2 for MNIST Fashion Dataset
- Image Classification with Pre-trained Keras models
- How to Deploy an Image Classification Model using Flask
- Introduction to Transfer Learning (Cat vs Non-cats Project)
- Introduction to Neural Style Transfer using Deep Learning & TensorFlow 2 (Art Generation Project)
- Mask R-CNN with OpenCV for Object Detection
- Analyze Emails

Course Details and Fees —

Please find more information about the course and fees here:

<https://cloudxlab.com/course/99/computer-vision>

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