**Top Deep Learning Projects & Ideas For Beginners with Free Source Code [2024]**

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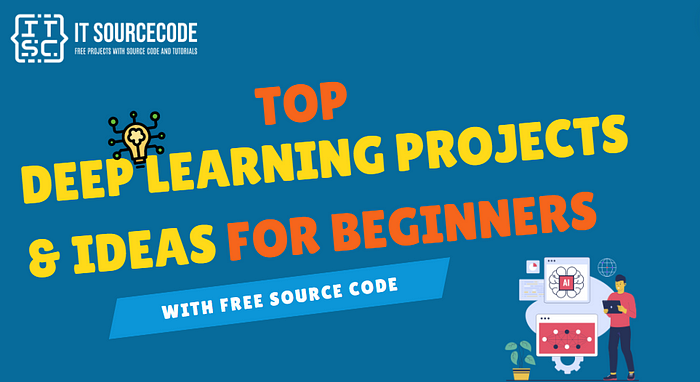
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Having a hard time looking for **Deep Learning Projects**?

Well, I can help you with that because today, I will be sharing with you a list of**deep learning project ideas** especially for beginners.

Along with that, you can download the complete source code for free!”



**Top Deep Learning Projects & Ideas For Beginners with Free Source Code**

Here’s a list of **deep learning projects and ideas**, suitable for everyone from beginners to advanced learners.

**1. OpenCV Python East Text Detection With Source Code**

The **Text Detection** was developed using Python OpenCV, in here you will learn how to use OpenCV to detect text in real-time using web-camera.

OpenCV Python is a deep learning model, based on a novel architecture and training pattern.

Apart from that, you will learn how to use OpenCV to detect text in images using the EAST text detector.

**You can download the complete source code here:**

**[OpenCV Python East Text Detection With Source Code](https://itsourcecode.com/free-projects/python-projects/opencv-python-text-detection-with-source-code/?source=post_page-----9b52f25c3b8b--------------------------------" \t "_blank)**

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**2. Traffic Signs Recognition using CNN and Keras in Python**

The **project Traffic Signs Recognition** was developed using Python Programming with CNN and Keras.

There are several different types of traffic signs like speed limits, no entry, traffic signals, turn left or right, children crossing, no passing of heavy vehicles, etc.

A Traffic Signs Recognition Python project example, we will build a deep neural network model that can classify traffic signs present in the image into different categories.

With this model, we are able to read and understand traffic signs which are a very important task for all autonomous vehicles.

**You can download the complete source code here:**

**[Traffic Signs Recognition using CNN and Keras in Python](https://itsourcecode.com/free-projects/python-projects/traffic-signs-recognition-using-cnn-keras-in-python-with-source-code/?source=post_page-----9b52f25c3b8b--------------------------------" \t "_blank)**

[TheTraffic Signs Recognition Using CNN and Keras In Python was developed using Python Programming with CNN and Keras.](https://itsourcecode.com/free-projects/python-projects/traffic-signs-recognition-using-cnn-keras-in-python-with-source-code/?source=post_page-----9b52f25c3b8b--------------------------------" \t "_blank)

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**3. Motion Detection OpenCV Python With Source Code**

The project **Motion Detection** was developed using Python OpenCV , this project is used in CCTV Cameras to detect any kind of motion in the video frame.

A Motion Detection OpenCV Python Algorithm Capture Video, in which you have to detect movement using OpenCV in Python.

In many applications based on machine vision, motion detection is used. For example, when we want to count the people who pass by a certain place.

In all these cases, the first thing we have to do is extract the people that are at the scene.

**You can download the complete source code here:**

**[Motion Detection OpenCV Python With Source Code](https://itsourcecode.com/free-projects/python-projects/motion-detection-opencv-python-with-source-code/?source=post_page-----9b52f25c3b8b--------------------------------" \t "_blank)**

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**4. Real-Time Car Detection using OpenCV Python With Source Code**

The **Real-Time Car Detection system project**was developed using Python OpenCV, Vehicle detection is one of the widely used features by companies and organizations these days.

This technology uses computer vision to detect different types of vehicles in a video or real-time via a camera.

A Car Detection OpenCV Python finds its applications in traffic control, car tracking, creating parking sensors, and many more.

With this you will be able learn how to build a car tracking system in Python for both recorded and live cam streamed videos.

**You can download the complete source code here:**

**[Real-Time Car Detection using OpenCV Python With Source Code](https://itsourcecode.com/free-projects/python-projects/real-time-car-detection-opencv-python-with-source-code/?source=post_page-----9b52f25c3b8b--------------------------------" \t "_blank)**

[The Real-Time Car or Vehicle Detection using OpenCV and Python was developed using Python OpenCV, It also includes a…](https://itsourcecode.com/free-projects/python-projects/real-time-car-detection-opencv-python-with-source-code/?source=post_page-----9b52f25c3b8b--------------------------------" \t "_blank)

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**5. Gender and Age Detection OpenCV Python With Source Code**

The **Gender and Age Detection** was developed using Python OpenCV.

In this Python project, we will use **Python Deep Learning** to accurately identify the gender and age of a person from a single image of a face.

It is very difficult to accurately guess an exact age from a single image because of factors like makeup, lighting, obstructions, and facial expressions.

And so, we make this a classification problem instead of making it one of regression.

**You can download the complete source code here:**

**[Gender and Age Detection OpenCV Python With Source Code](https://itsourcecode.com/free-projects/python-projects/gender-and-age-detection-opencv-python-with-source-code/?source=post_page-----9b52f25c3b8b--------------------------------" \t "_blank)**

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**6. Real-Time Plate Number Detection using OpenCV in Python**

The**Real-Time Plate Number Detection**was developed using Python OpenCV, License Plate Recognition is an image-processing technology used to identify vehicles by their license plates.

This technology is used in various security and traffic applications.

A Plate Number Detection OpenCV Python aims to recognize license number plates.

To detect license number plates, we will use OpenCV to identify number plates and Python pytesseract to extract characters and digits from the number plates.

**You can download the complete source code here:**

**[Real-Time Plate Number Detection using OpenCV in Python](https://itsourcecode.com/free-projects/python-projects/real-time-plate-number-detection-opencv-python-with-source-code/?source=post_page-----9b52f25c3b8b--------------------------------" \t "_blank)**

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**7. Real-Time Face Mask Detection with OpenCV Python Source Code**

The Real-Time Face Mask Detection was developed using Python Detection OpenCV, during the Pandemic COVID-19, WHO has made wearing masks compulsory to protect against this deadly virus.

This real-time Face Mask Detection system able to detect whether the person on the webcam is wearing a mask or not.

This is a nice project for beginners to implement their learnings and gain expertise.

**You can download the complete source code here:**

**[Real-Time Face Mask Detection with OpenCV Python Source Code](https://itsourcecode.com/free-projects/python-projects/real-time-face-mask-detection-opencv-python-source-code/?source=post_page-----9b52f25c3b8b--------------------------------" \t "_blank)**

[The Real-Time Face Mask Detection OpenCV Python was developed using Python Python Detection OpenCV, it also includes…](https://itsourcecode.com/free-projects/python-projects/real-time-face-mask-detection-opencv-python-source-code/?source=post_page-----9b52f25c3b8b--------------------------------" \t "_blank)

[itsourcecode.com](https://itsourcecode.com/free-projects/python-projects/real-time-face-mask-detection-opencv-python-source-code/?source=post_page-----9b52f25c3b8b--------------------------------" \t "_blank)

**8. Student Attendance Management System Project In Python**

The **Student Attendance Management System Project** was developed using Python OpenCV in Real-Time.

This **Attendance Management System Project in Python** provide a valuable attendance service for both teachers and students.

It reduces manual process errors by provide automated and a reliable attendance system uses face recognition technology.

A Attendance Management System Using Face Recognition Python is a simple python script that recognizes faces and mark attendance for the recognized faces in an excel sheet.

**You can download the complete source code here:**

**[Student Attendance Management System Project In Python](https://itsourcecode.com/free-projects/python-projects/real-time-student-attendance-management-system-project-in-python/?source=post_page-----9b52f25c3b8b--------------------------------" \t "_blank)**

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**9. Real-Time Drowsiness Detection using OpenCV Python**

The Real-Time Drowsiness Detection system project was developed using Python OpenCV.  
This Drowsiness Detection is a safety technology that can prevent accidents that are caused by drivers who fall asleep while driving.

In a Drowsiness Detection OpenCV Python project, we will be using OpenCV to gather the images from the webcam and feed them into a Deep Learning model which will classify whether the person’s eyes are “Open” or “Closed”.

**You can download the complete source code here:**

**[Real-Time Drowsiness Detection using OpenCV Python](https://itsourcecode.com/free-projects/python-projects/real-time-drowsiness-detection-opencv-python-with-source-code/?source=post_page-----9b52f25c3b8b--------------------------------" \t "_blank)**

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**10. Image Caption Generator with CNN & LSTM in Python**

The Image Caption Generator was developed using Python Programming with CNN and LSTM.

This Project aims to learn the concepts of a CNN and LSTM model and build a working model of an Image caption generator by implementing CNN with LSTM.

An Image Caption Generator In Python we will be implementing the caption generator using CNN (Convolutional Neural Networks) and LSTM (Long short-term memory).

The image features will be extracted from Xception which is a CNN model trained on the imagenet dataset and then we feed the features into the LSTM model which will be responsible for generating the image captions.

**You can download the complete source code here:**

**[Image Caption Generator with CNN & LSTM in Python](https://itsourcecode.com/free-projects/python-projects/image-caption-generator-with-cnn-lstm-in-python-with-source-code/?source=post_page-----9b52f25c3b8b--------------------------------" \t "_blank)**

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**Bonus**

**Deep Learning Project Ideas**

* 12 Sigma’s Lung Cancer detection algorithm
* Chatbot
* Colouring old B&W photos
* Digit Recognition System
* Disease detection in plants
* Hand gesture recognition
* IBM Watson
* Language Translating

**Conclusion**

**Deep learning** is a powerful tool that finds its application in various fields such as computer vision, natural language processing, speech recognition and processing, among others.

By giving you the list of top**Deep Learning Projects and Ideas** for beginners to advanced learners, you are now able to create your own deep learning project depending on your requirements.

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