

# Deep Learning for Beginner (AI)- Data Science

Deep Learning for beginners, Mathematical & Graphical explanation of deep learning with ebooks and Python projects

## Description

Learn Deep Learning from scratch. It is the extension of Machine Learning; this course is for a beginner who wants to learn the fundamental of deep learning and artificial intelligence. The course includes video explanations with introductions (basics), detailed theory, and graphical explanations. Some daily life projects have been solved by using Python programming.

Downloadable files of ebooks and Python codes have been attached to all the sections. The lectures are appealing, fancy, and fast. They take less time to walk you through the whole content. Each topic has been taught extensively in-depth to cover all the possible areas to understand the concept easily. It's highly recommended for students who need to learn the fundamental of machine learning by studying at the college and university levels.

The main goal of publishing this course is to explain deep learning and artificial intelligence in a straight forward and easy way. All the codes have been conducted through Collab, which is an online editor. Python remains a popular choice among numerous companies and organizations. Python has a reputation as a beginner-friendly language, replacing Java as the most widely used introductory language because it handles much of the complexity for the user, allowing beginners to focus on fully grasping programming concepts rather than minute details.

## Topics covered in Deep Learning:

- Introduction to Deep Learning
- Artificial Neural Network vs. Biological Neural Network
- Activation Functions
- Types of Activation Functions
- Artificial Neural Network (ANN) model
- Complex ANN model
- Forward ANN model
- Backward ANN model
- Python project of ANN model
- Convolutional Neural Network (CNN) model
- Filters or Kernels in the CNN model
- Stride Technique
- Padding Technique
- Pooling Technique
- Flatten procedure
- Python project of a CNN model
- Recurrent Neural Network (RNN) model
- Operation of the RNN model
- One-one RNN model
- One-many RNN model

- Many-many RNN model
- Many-one RNN model

### Who this course is for:

Beginner of Deep Learning of artificial intelligence who wants to learn from scratch

### Requirements

Basics of Python and Machine Learning

### What you'll learn

- Introduction to Deep Learning, resemblance of artificial neural network and biological Neural network
- Activation function and its types, Application of activation function, Linear activation function, Non-linear activation function
- Types of activation function: Step function, Sign function, Linear function, ReLU function, Leaky ReLU function, Tangent Hyperbolic function, Sigmoid, Softmax
- Artificial neural network, ANN model, Complex ANN model, Labelled ANN model, Forward ANN, Backward ANN, ANN python project
- Convolutional Neural Network (CNN), CNN block diagram, Filter or Kernel, Types of filters, Stride, Padding, Pooling, Flatten, CNN Python project
- Recurrent Neural Network (RNN), RNN model, Operation of RNN model, Types; One-one RNN model, One-many RNN model, Many-many RNN model

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