

Advanced Machine Learning and Deep Learning

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Artificial Neural Networks with Keras + TensorFlow



TensorFlow

- **TensorFlow** is an open source library for high performance numerical computation including machine learning and deep learning and many other scientific applications. It is originally developed by researchers and engineers in the Google Brain team within Google's AI.



Ref: <https://www.tensorflow.org>

Keras

- **Keras** is a powerful, user-friendly, and open-source neural network framework/API written in Python. Keras is capable of running on top of TensorFlow or Theano libraries.



Ref: <https://keras.io>

Installation

- In command line:

```
pip install tensorflow
```

```
pip install keras
```

More info about installation:

<https://www.tensorflow.org/install/>

<https://keras.io/#installation>

Keras + TensorFlow Tutorial

- Now, let's continue by opening the Keras + TensorFlow Tutorials on Artificial Neural Networks ...