



## IMD1122 Q&A (Lessons 1, 2)

# What is your level of engagement with the material in classes 1 and 2?

Tell me about a popular application of machine learning that you see on day-to-day basis.

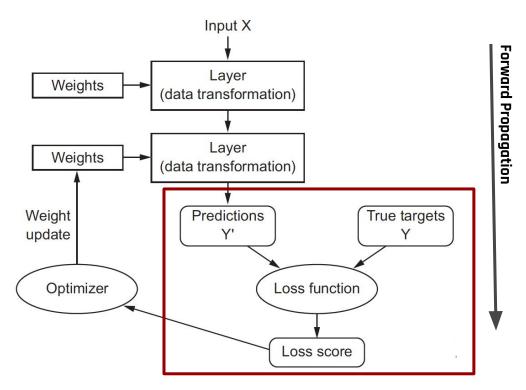
## How would you compare TensorFlow with scikit-learn?

What is Deep Learning and what are some of the main characteristics that distinguish it from traditional ML?

# Why do we need activation function in the neural networks?

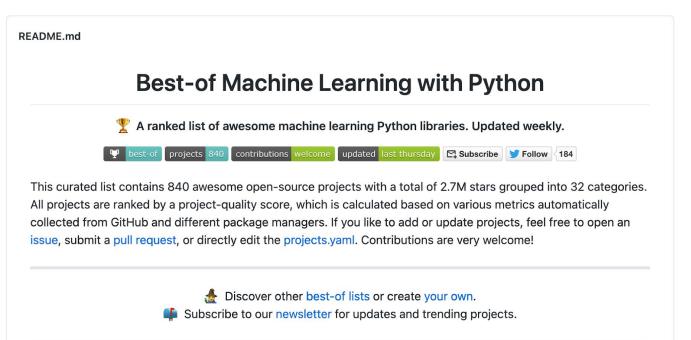
# Why the bias (w0) is so important for the output of a neuron?

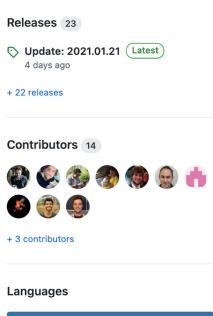
## Understanding how DL works





#### ☐ ml-tooling / best-of-ml-python

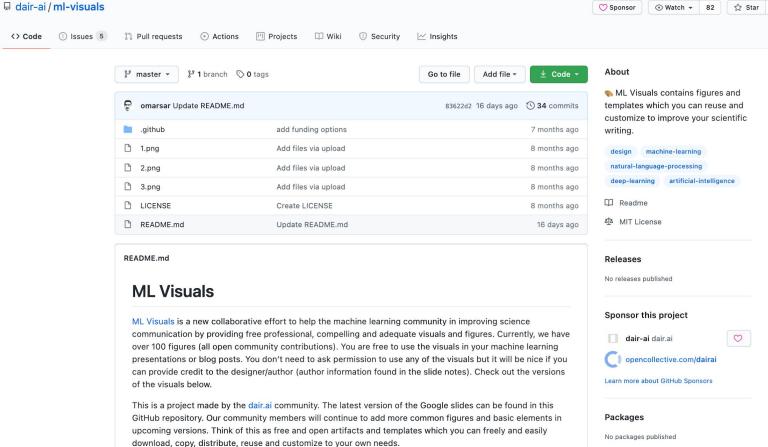




Python 100.0%



Watch 
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ML Visuals is now being used to power 100s of figures used by master/PhD students, papers (like this one),

among other use cases.

<> Code





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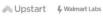


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[Submitted on 8 Nov 2018]

## Activation Functions: Comparison of trends in Practice and Research for Deep Learning

Chigozie Nwankpa, Winifred Ijomah, Anthony Gachagan, Stephen Marshall

Deep neural networks have been successfully used in diverse emerging domains to solve real world complex problems with may more deep learning(DL) architectures, being developed to date. To achieve these state-of-the-art performances, the DL architectures use activation functions (AFs), to perform diverse computations between the hidden layers and the output layers of any given DL architecture. This paper presents a survey on the existing AFs used in deep learning applications and highlights the recent trends in the use of the activation functions for deep learning applications. The novelty of this paper is that it compiles majority of the AFs used in DL and outlines the current trends in the applications and usage of these functions in practical deep learning deployments against the state-of-the-art research results. This compilation will aid in making effective decisions in the choice of the most suitable and appropriate activation function for any given application, ready for deployment. This paper is timely because most research papers on AF highlights similar works and results while this paper will be the first, to compile the trends in AF applications in practice against the research results from literature, found in deep learning research to date.

Comments: 20 pages, 6 figures, 2 tables

Subjects: Machine Learning (cs.LG); Computer Vision and Pattern Recognition (cs.CV)

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https://www.imd.ufrn.br/
https://github.com/ivanovitchm/imd1122