Deep Learning

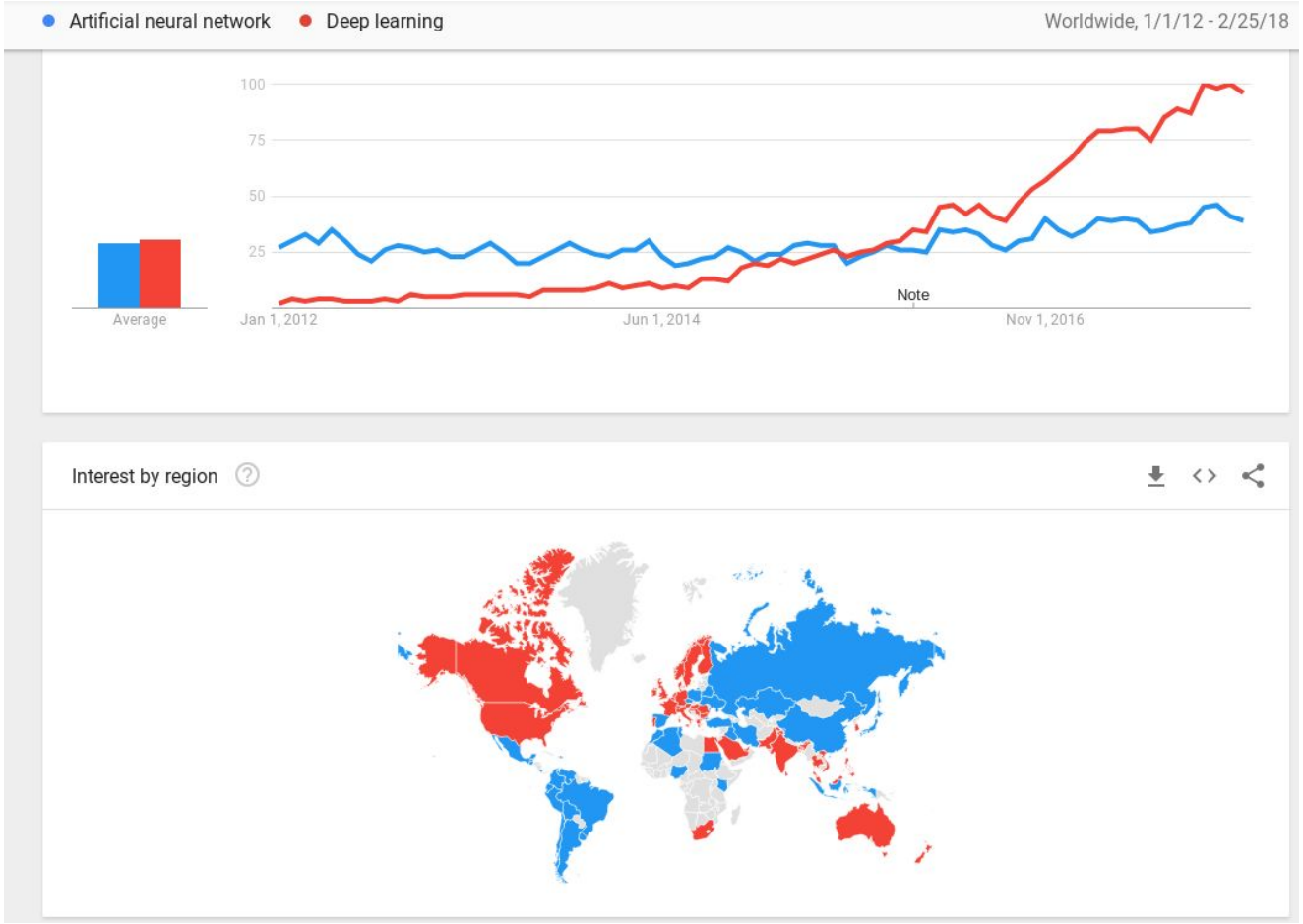
UFRN 2018.1

Prof. Helton Maia

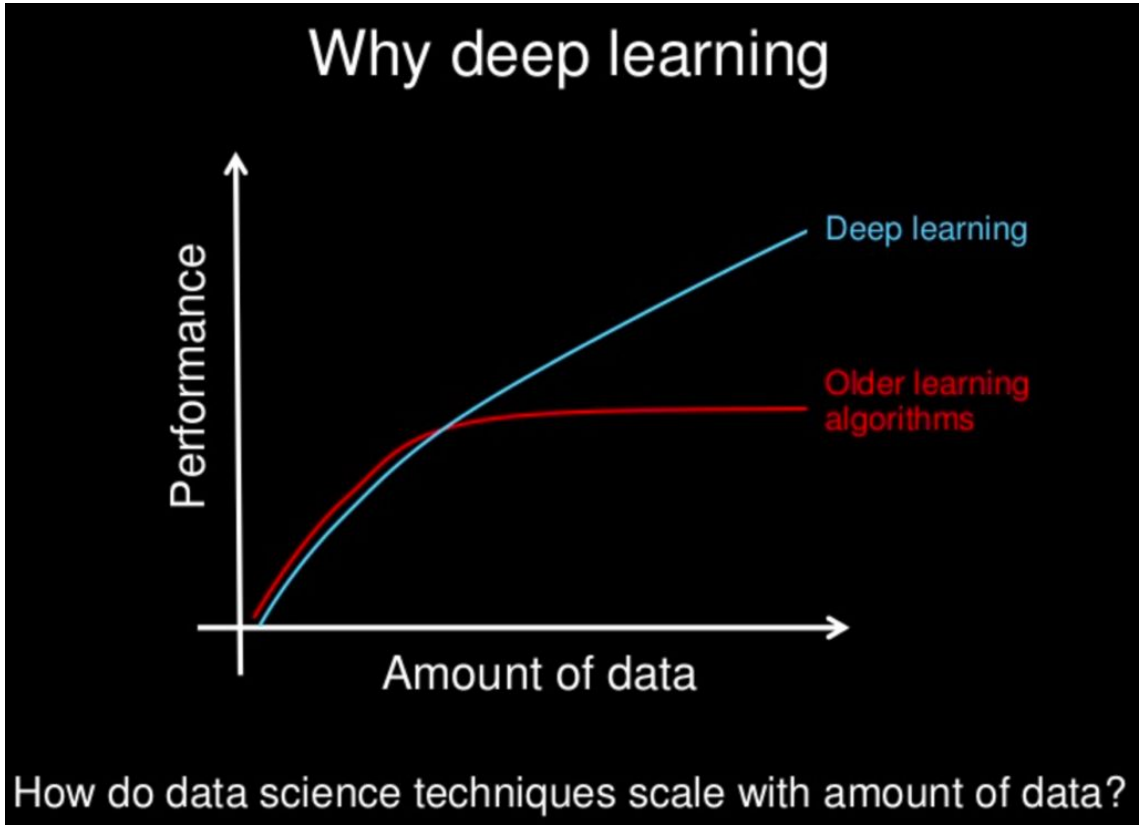
Plano de Estudos

- **Semana 1**: *What is Deep Learning ?*
- **Semana 2**: Fundamentos de Machine Learning
  - Introdução
  - Aprendizagem Supervisionada
  - CNN - *Layers : Convolutional, Activation, Pooling, Flattening, Fully-connected*
- **Semana 3**: Processamento de Imagens em Python
  - Instalação de pacotes e preparação do ambiente
  - Manipulando imagens com OpenCV
- **Semanas 4-5**: Construíndo o Primeiro Classificador
  - Conheçendo o Keras
  - Repetindo exemplos conhecidos
  - Projeto: Desenho e implementação de um novo experimento
- **Semanas 6-7**: Otimizando o Classificador
  - Analisando resultados e testando parâmetros
  - Apresentação de resultados

Semana 1



source: google trends



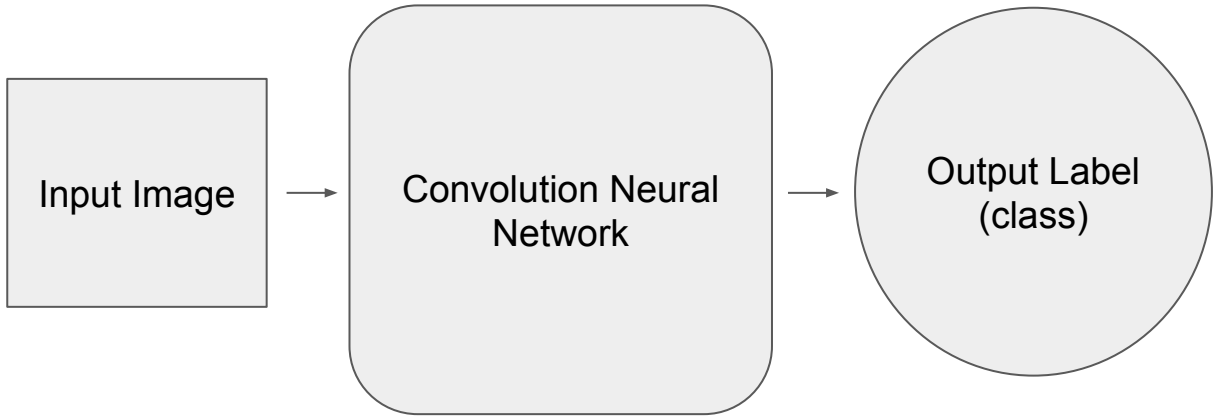
source :https://machinelearningmastery.com/what-is-deep-learning/

What is Deep Learning?

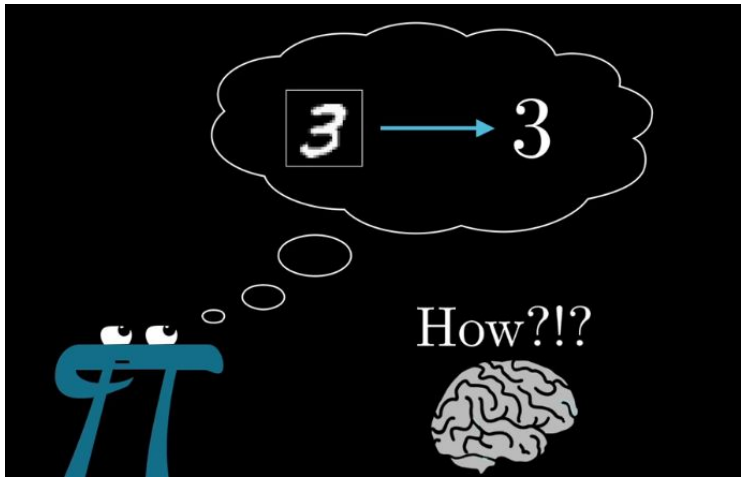
What is Deep Learning?

“A machine learning technique that learns **features and tasks** directly from data”.

Data can be images, text, sound ...



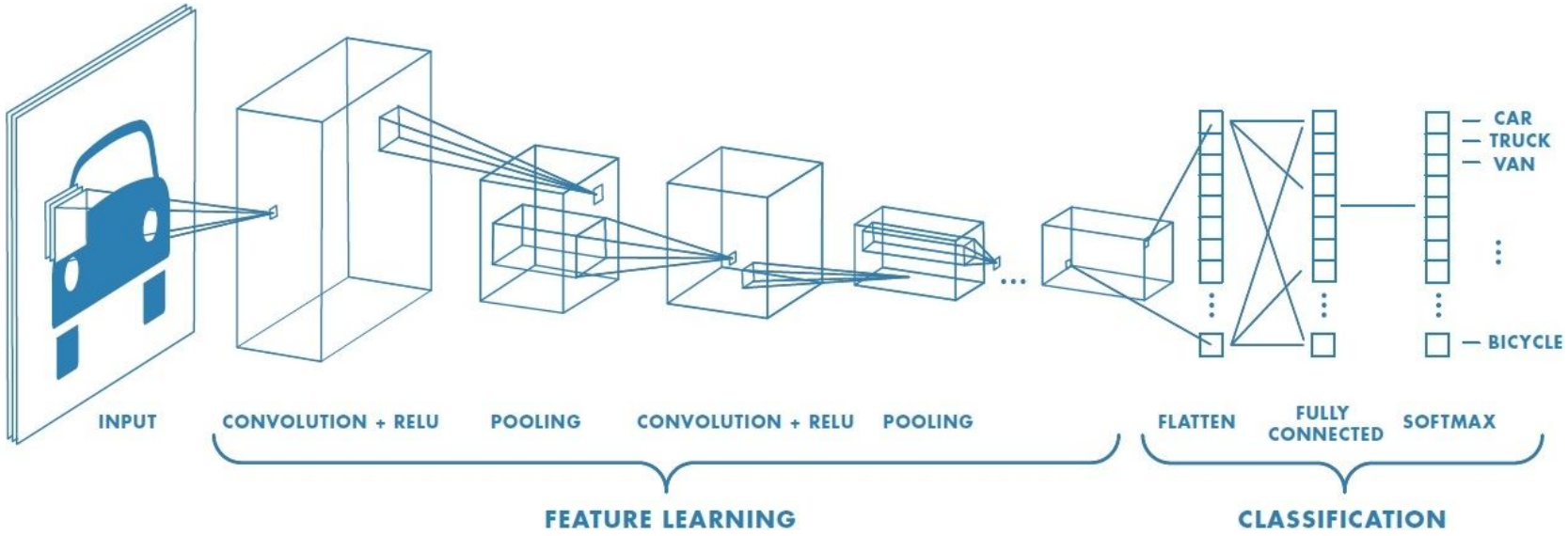
But what *is* a Neural Network? | Chapter 1, deep learning



https://youtu.be/aircAruvnKk

What is Deep Learning?

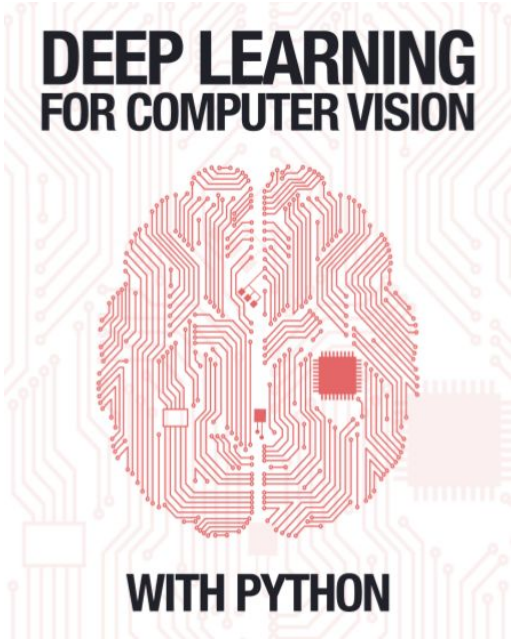
Blocos:



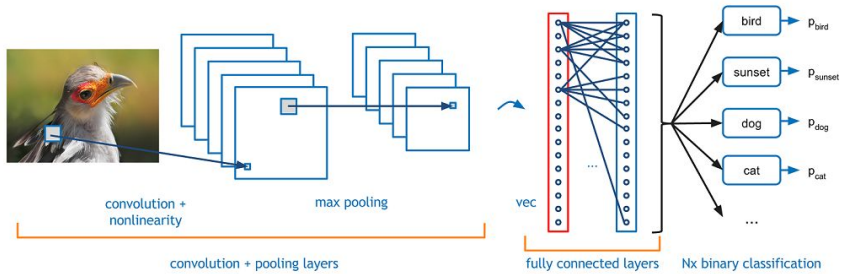
source: https://www.mathworks.com/discovery/convolutional-neural-network.html

What is Deep Learning?

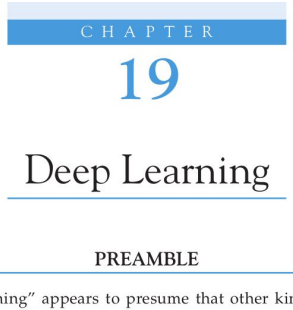
Leitura recomendada:



A Beginner's Guide To Understanding Convolutional Neural Networks



https://adeshpande3.github.io/adeshpande3.github.io/A-Beginner's-Guide-To-Understanding-Convolutional-Neural-Networks/



CHAPTER

19

Deep Learning

PREAMBLE

The term "deep learning" appears to presume that other kinds of machine-learning

Outras informações

- Desenvolvimento: Equipe/individual
- Discussão: Slack #deepLearning
- Repositório: Github
  https://github.com/heltonmaia/ECT/tree/master/deepLearningGroup
- SO, pacotes, IDE de programação
- GPU vs CPU

- Next week?