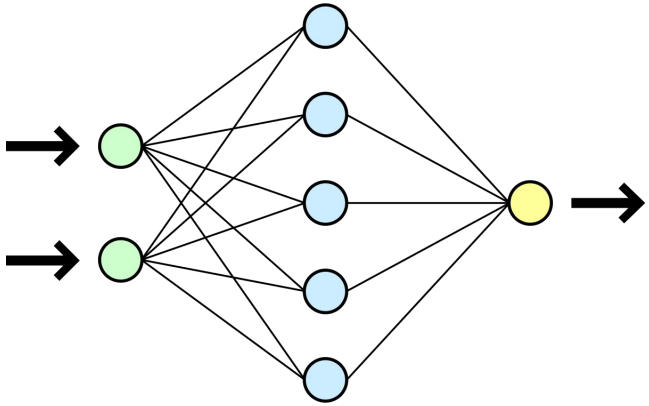

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# Neural Networks

## Introduction to Deep Learning and Neural Networks

# Deep Learning Tutorial Overview

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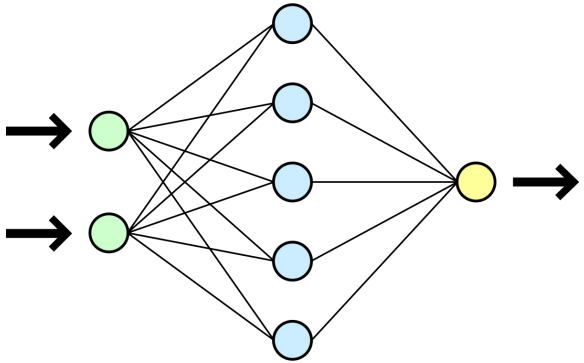
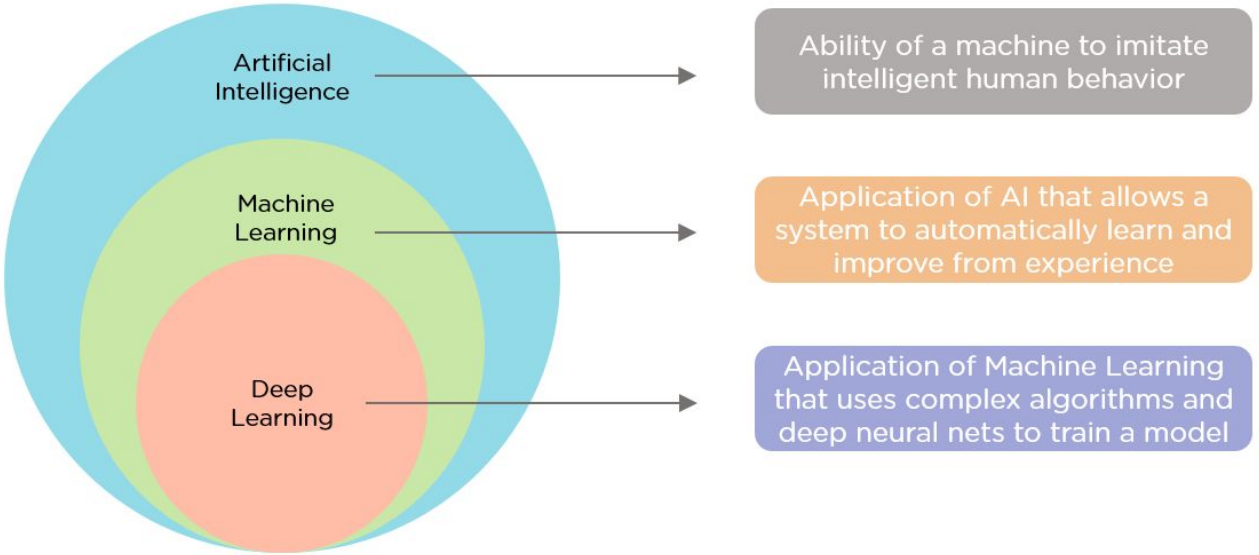
- Deep Learning and Neural Networks Explained
- Deep Learning Frameworks - Keras and TensorFlow
- Supervised, unsupervised and semi supervised learning
- Artificial Neural Networks
- Activation and Loss Functions
- Parameters and Elements in a Neural Network
- How to create your own Neural Network with Keras
- Training a Neural Network - Example and explanation of the process
- Predictions with a Neural Network
- Convolutional Neural Networks
- Tuning and Adjusting a Neural Network

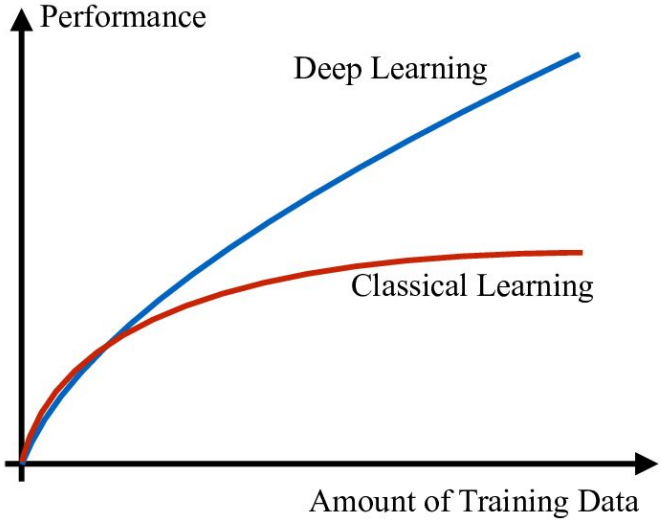


# Artificial Intelligence

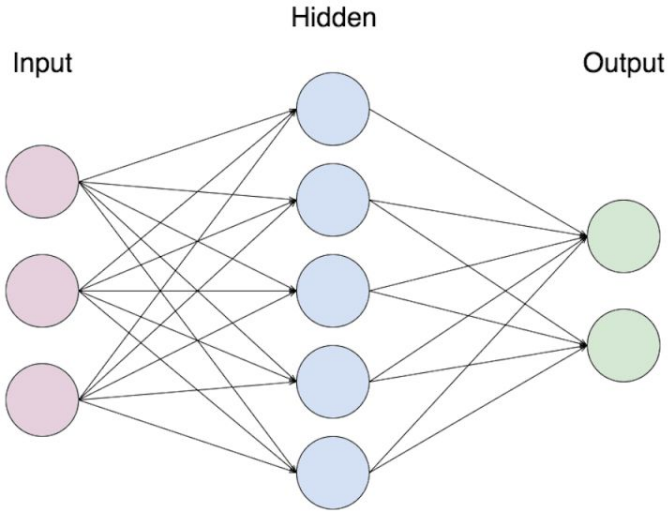


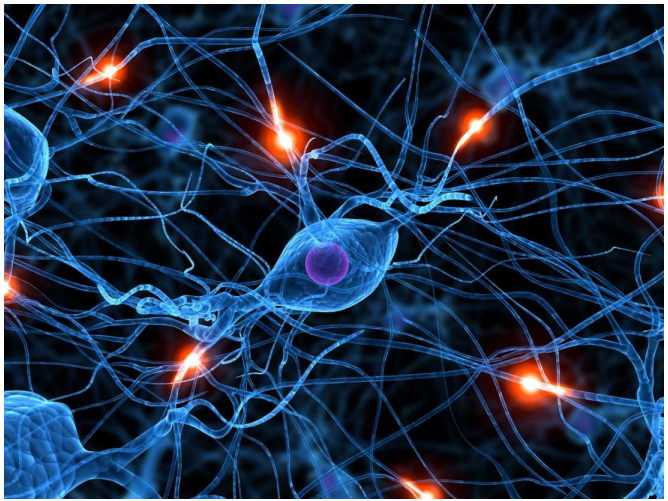
# Why Deep Learning?

- Outperforms Classical Machine Learning
- More data results in better performance
- Good Complex Neural Networks with a lot of data outperforms ML by magnitudes



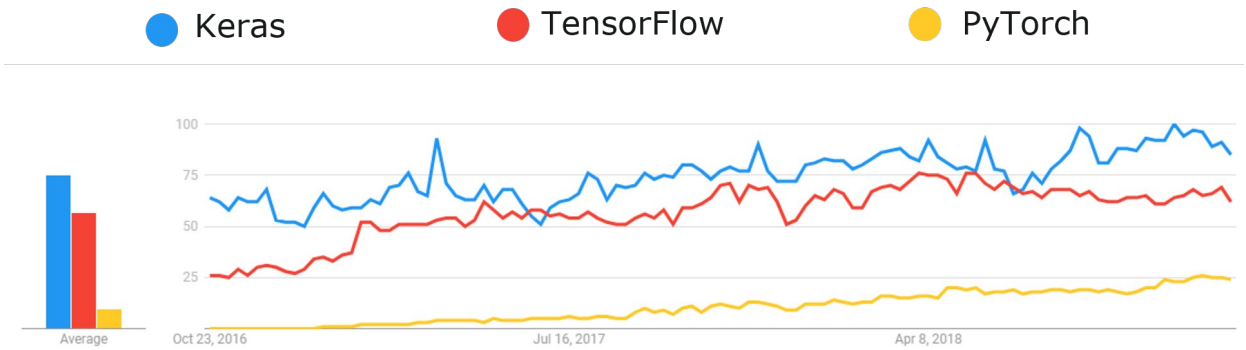
# What is a Neural Network?



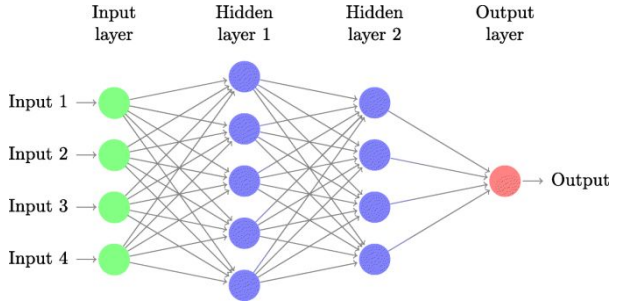
# Frameworks for Deep Learning

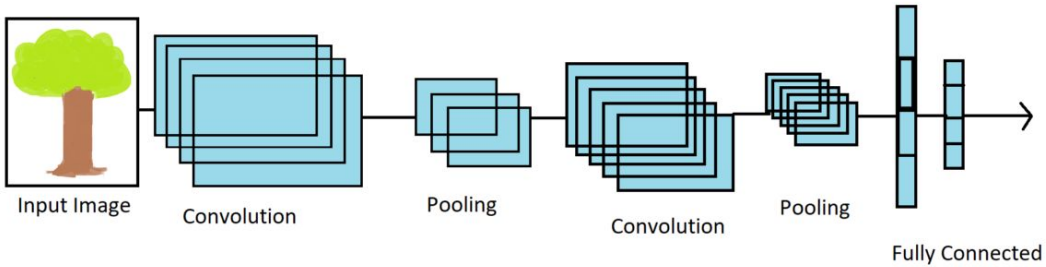
- Programming Language
  - Python
- Keras and TensorFlow
  - Keras is now integrated with TensorFlow
- PyTorch
- What is the best Framework to use?



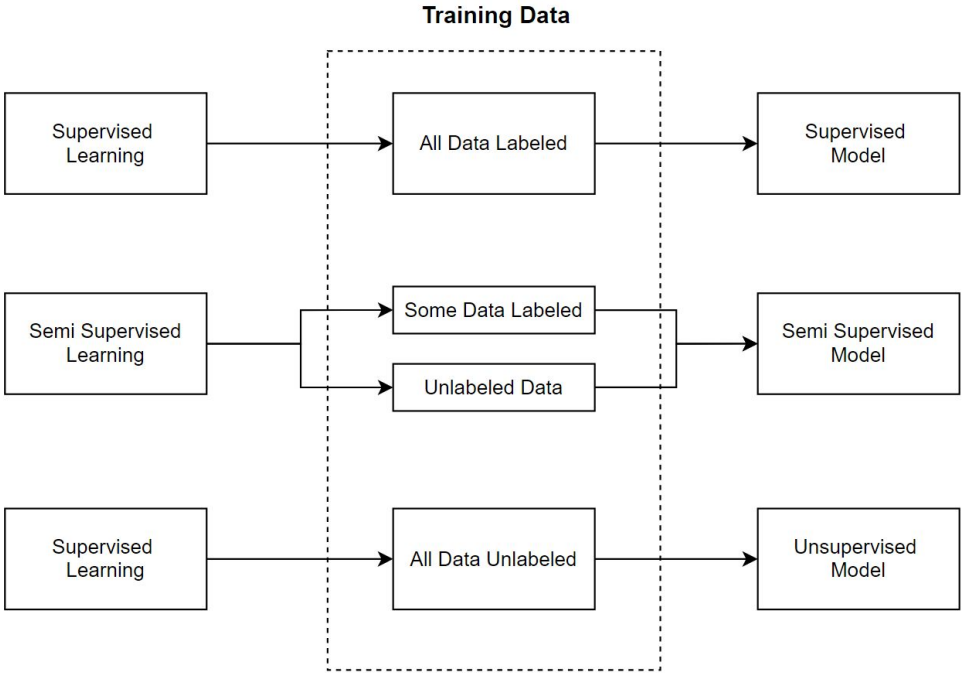
# Neural Networks in this Tutorial

- Artificial Neural Networks
- Convolutional Neural Networks



# Different Types of Learning



# Applications of Neural Networks