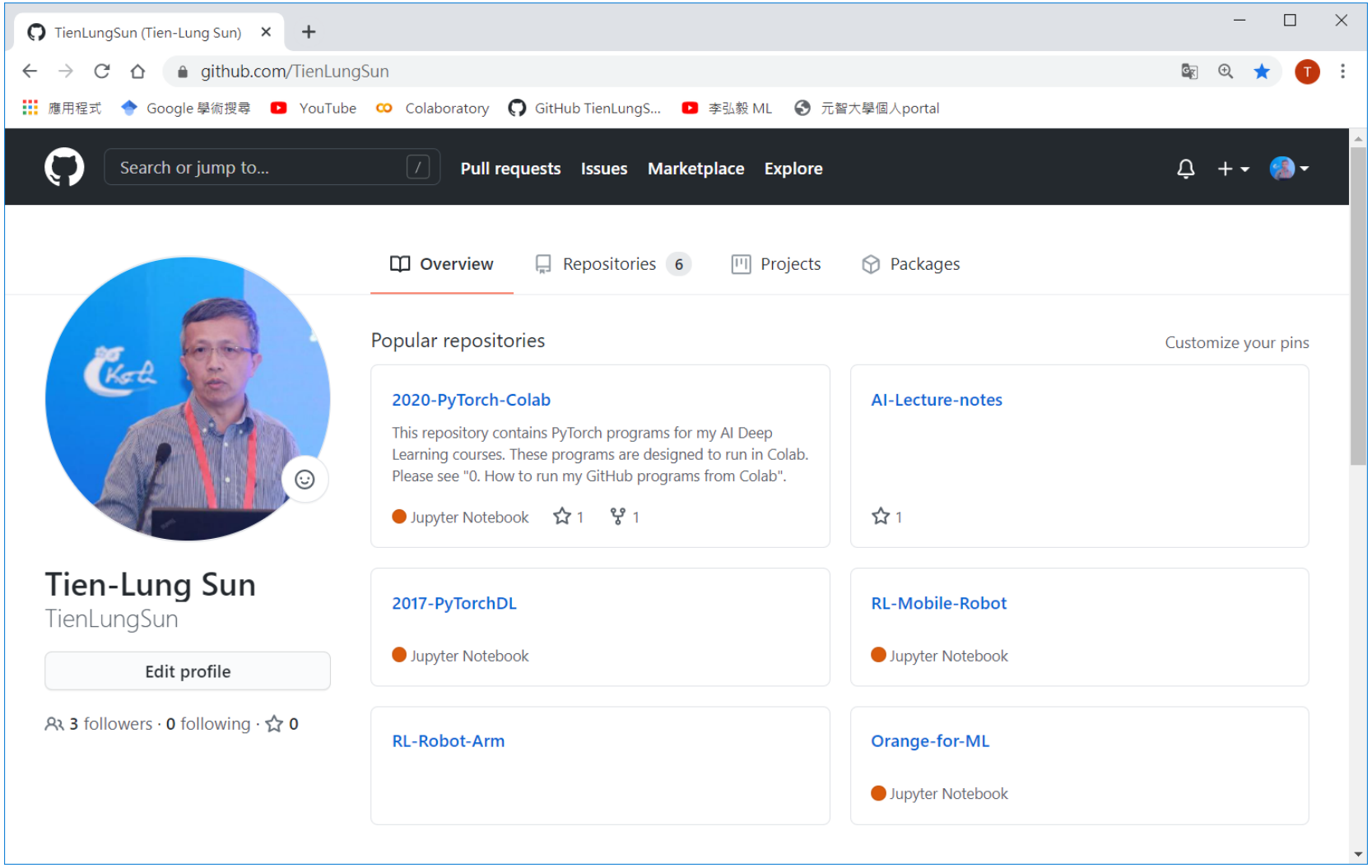
Introduction to Deep Learning – Concepts and PyTorch Development

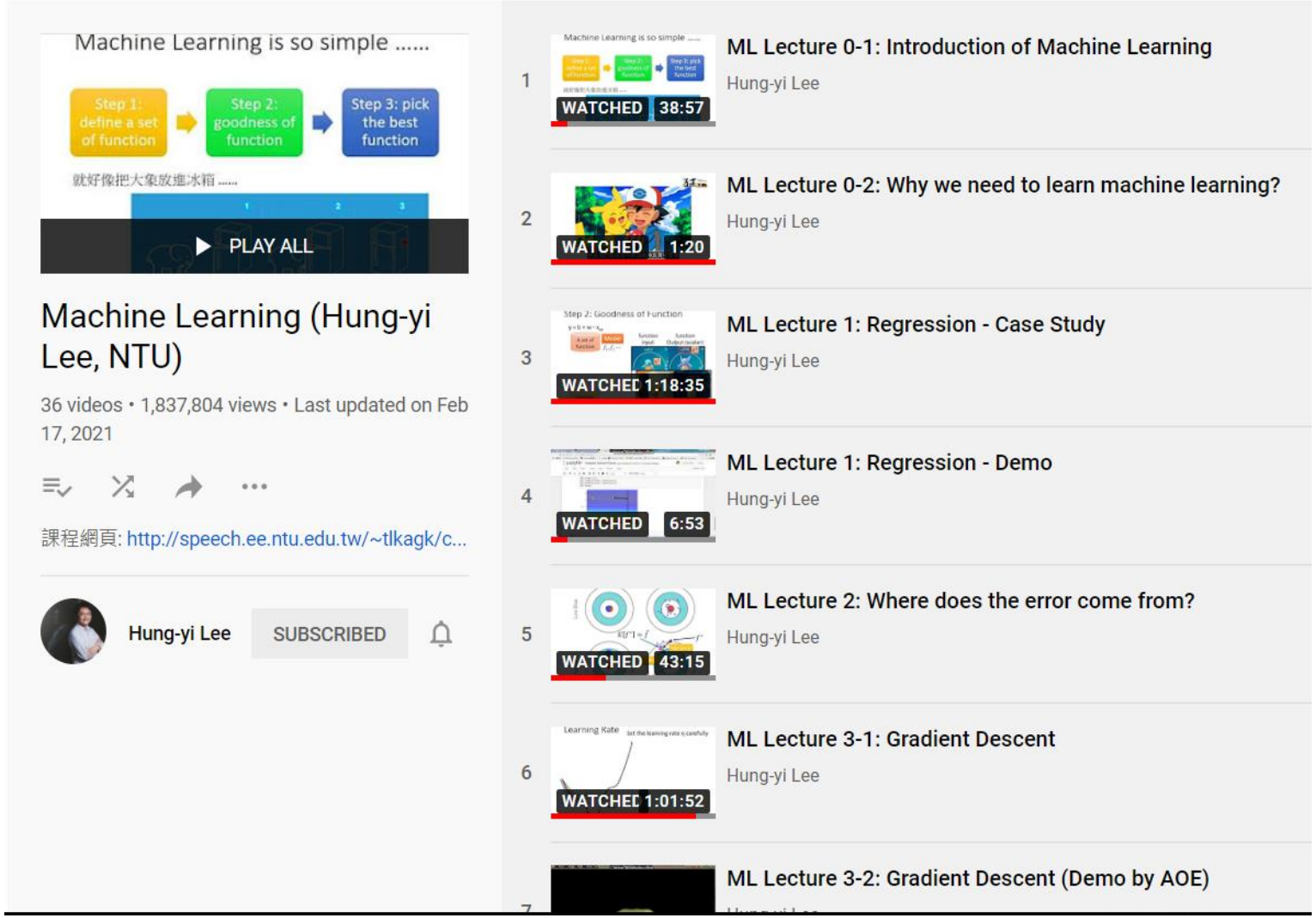
Tien-Lung Sun, Dept. of Industrial Engineering and Management, Yuan-Ze University
孫天龍　元智大學 工業工程與管理系 教授

Open source class materials at GitHub



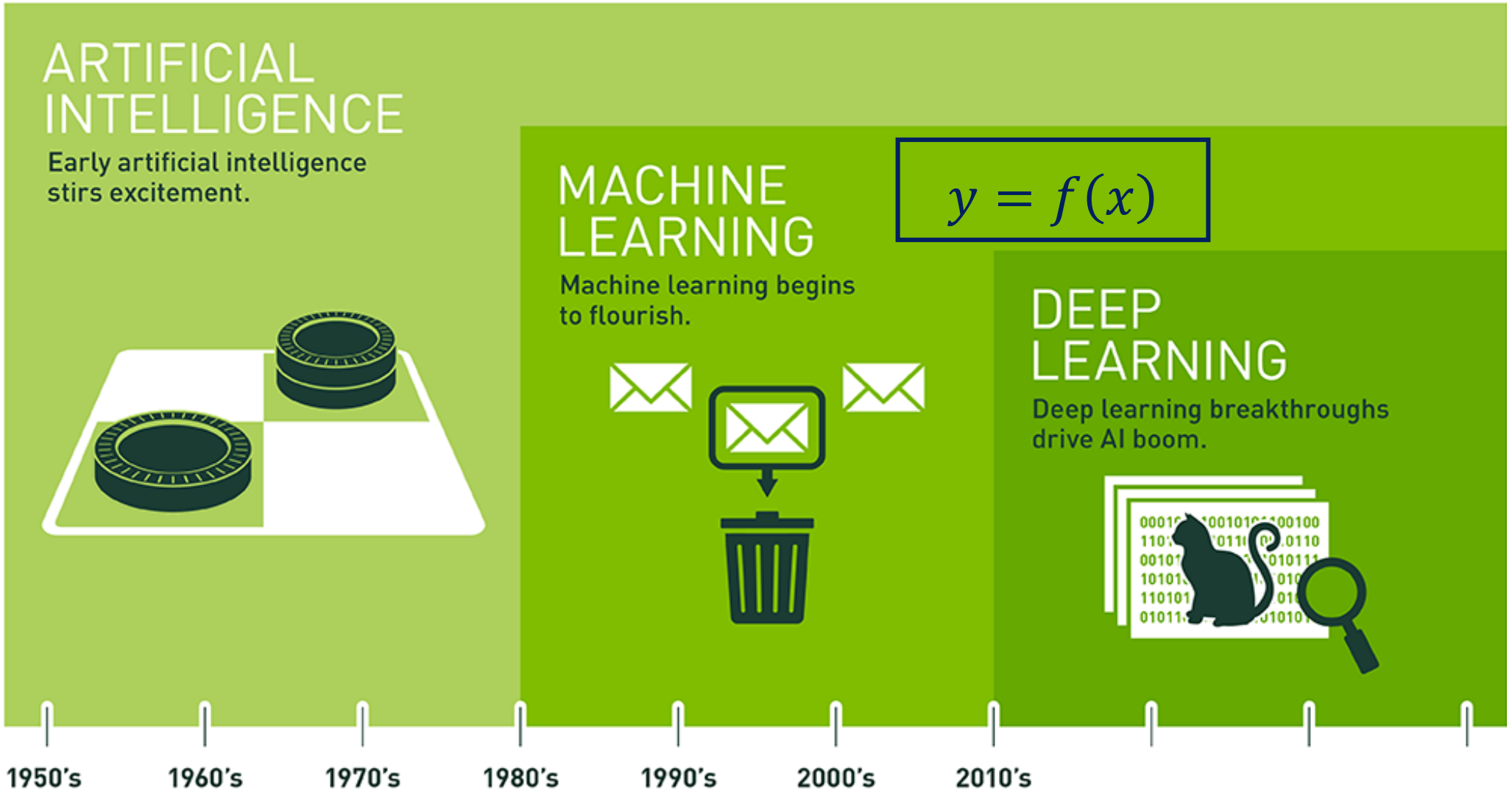
http://github.com/TienLungSun

Acknowledgement



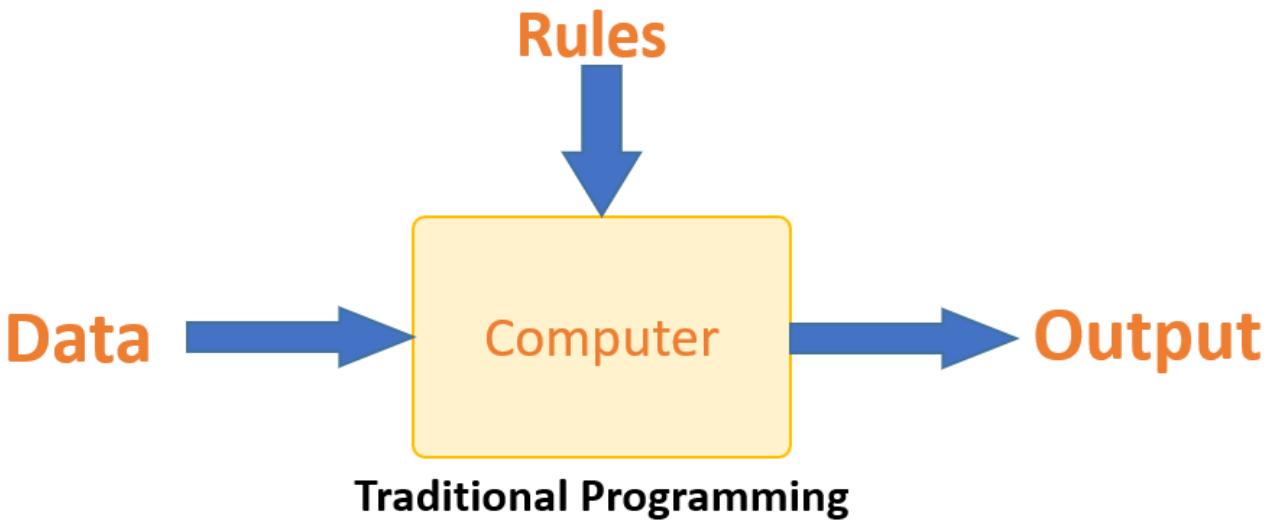
https://www.youtube.com/playlist?list=PLJV_el3uVTsPy9oCRY30oBPNLCo89yu49

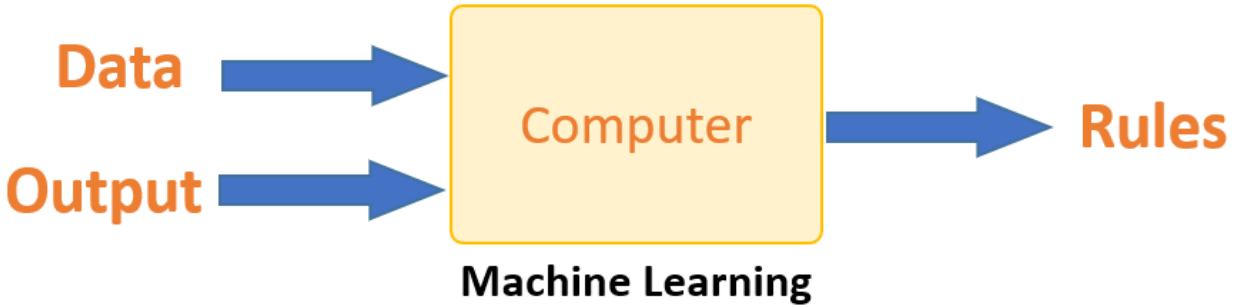
AI, ML and DL



https://blogs.nvidia.com/blog/2016/07/29/whats-difference-artificial-intelligence-machine-learning-deep-learning-ai/

Traditional programming vs machine learning

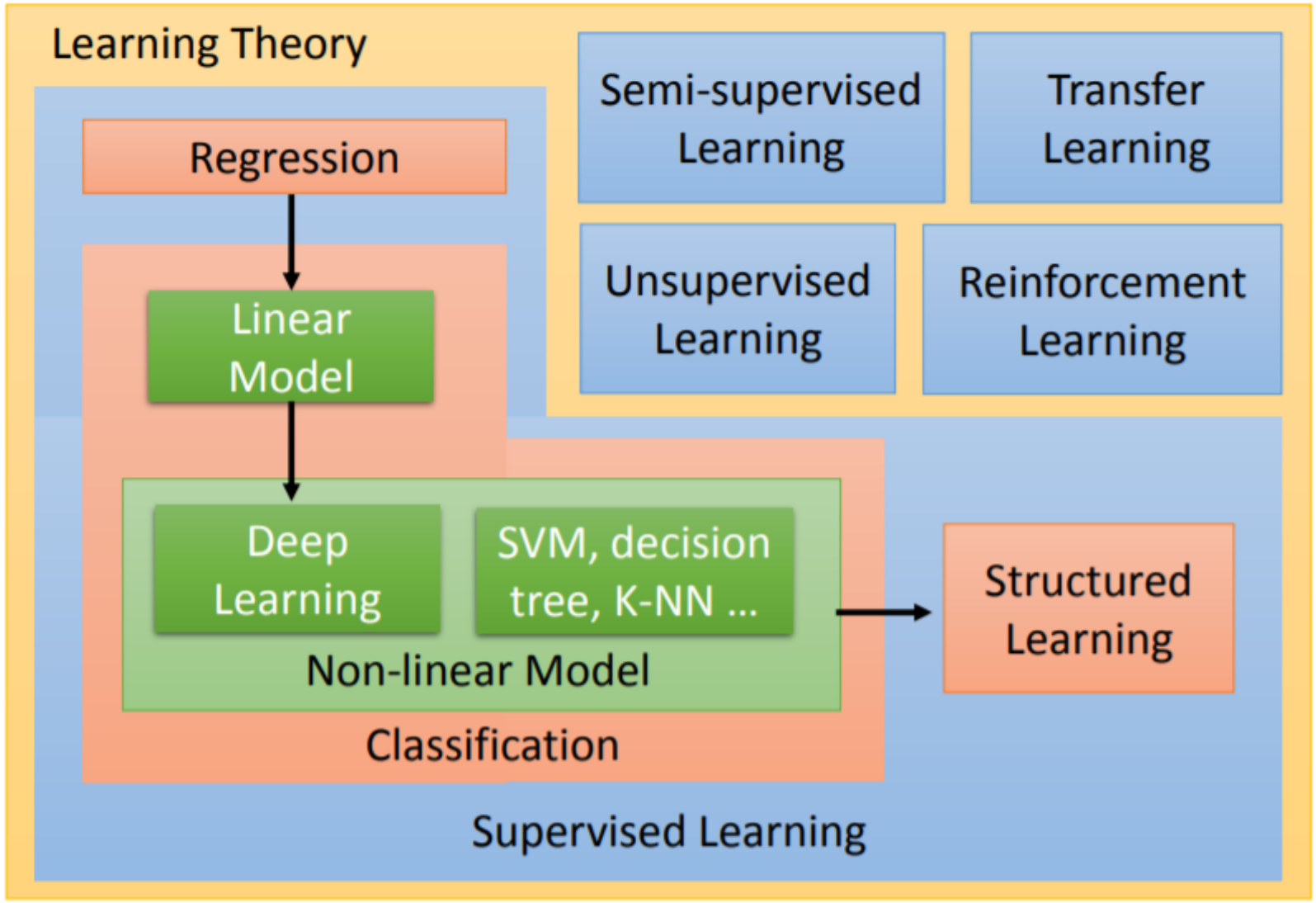




$$y = f(x)$$

https://www.guru99.com/machine-learning-tutorial.html

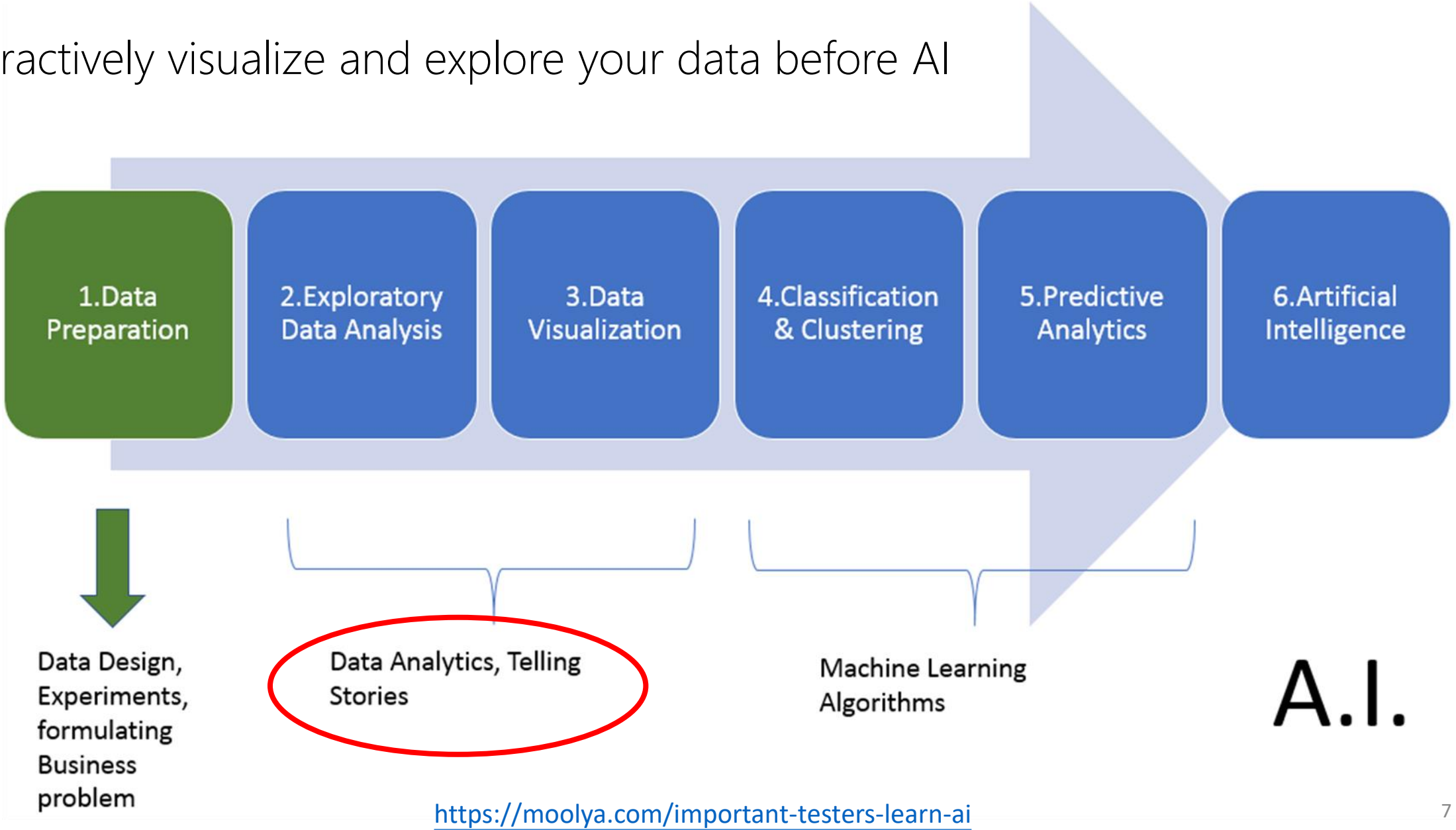
ML strategies



Reference: 李弘毅 ML Lecture 0-1 https://youtu.be/CXgbekl66jc

Data visualization

Interactively visualize and explore your data before AI



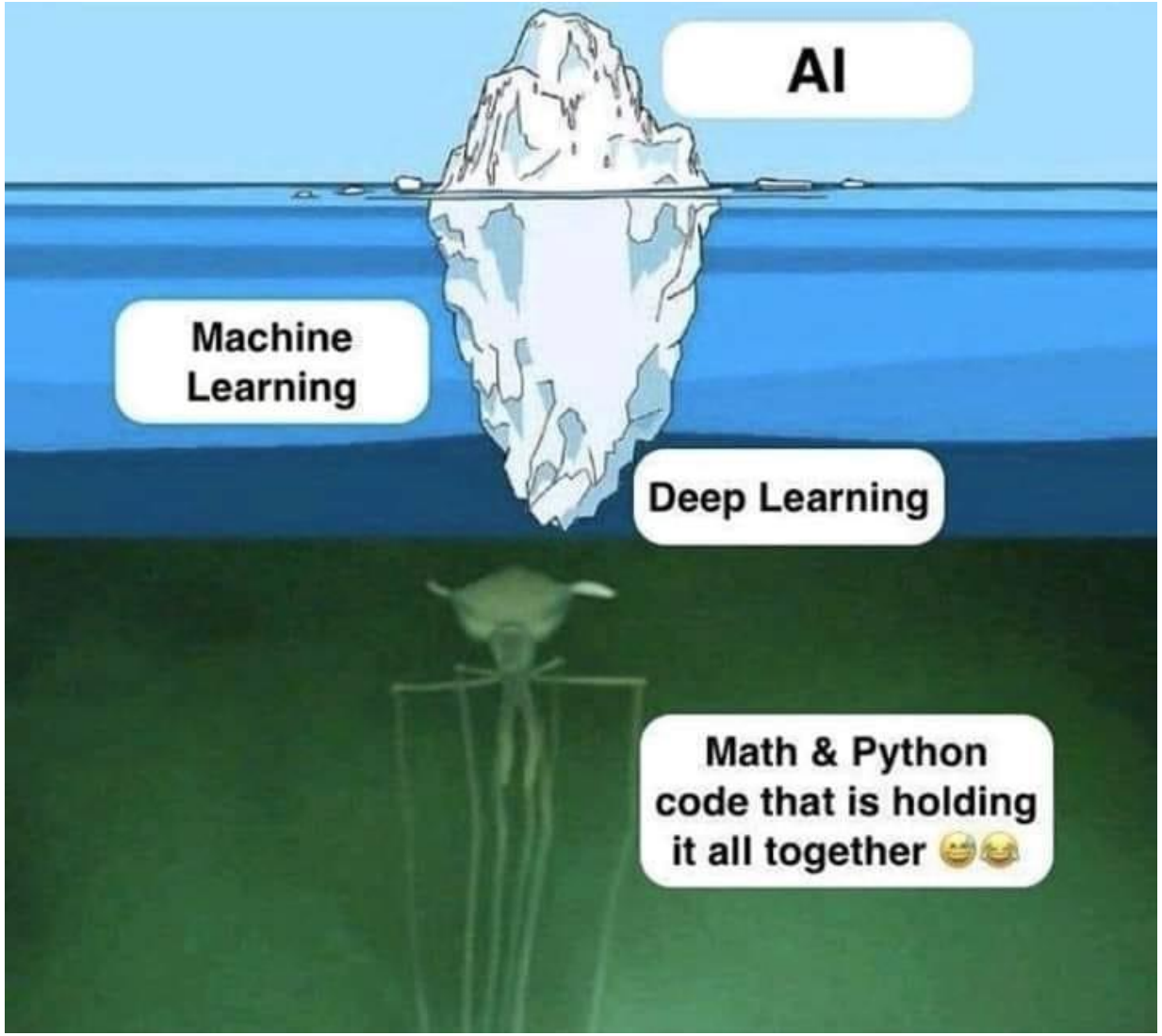
https://moolya.com/important-testers-learn-ai

Data preparation for ML

...**Data Cleaning** to delete duplicate rows are redundant columns
...**Outlier Detection** and removal
...**Missing Value** identification and imputation
...**Feature Selection** with statistics and models
...**Feature Importance** with models
...**Data Transforms** to change data scales, types, and distributions
...**Dimensionality Reduction** to create low-dimensional projections

Data Preparation for Machine Learning (machinelearningmastery.com)

Math + Python coding



https://www.facebook.com/257118421832544/photos/a.320314752179577/540486140162436/

Python development