DIVE INTO CODE Corp.

Machine Learning Engineering Course

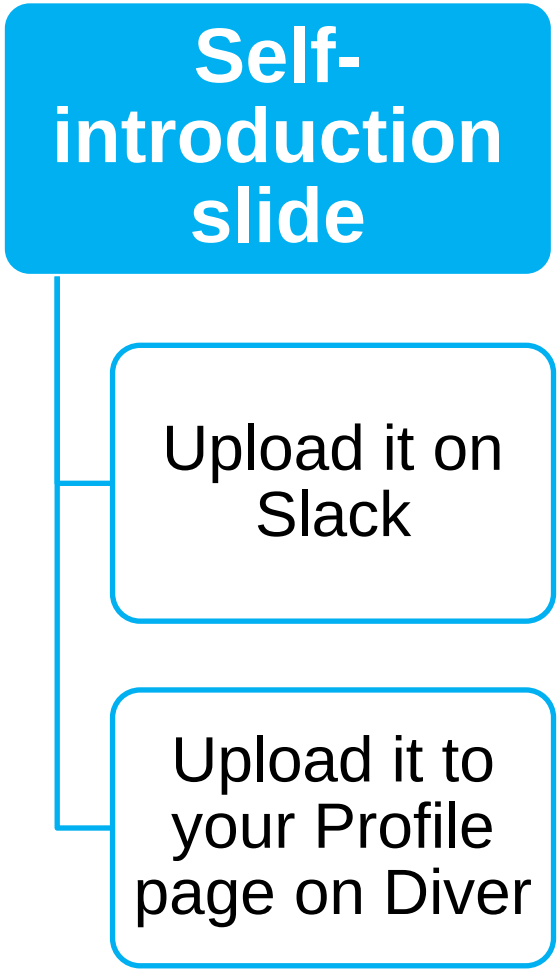
- Mentoring Session#1 for HCMUT Students -

DIVE INTO CODE

March 12th 2021

Overseas mentors: Cedrick Justin,
Alioune Thioune, Jules Ntaganda

Announcement



Outline

1. Self-Introduction
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8. Markdown Basics and Python Tutorial (Part 1)
9. Introduction to Python assignments (1 & 2)
10. Q&A

Self-Introduction 1/3

Alioune Thioune

Background	• **Senegalese** • **Currently staying in Japan**
Education	• **Bsc in Telecommunications ESMT, Dakar, Senegal** • **Msc Information Systems KIC, Kobe, Japan**
Collaboration with DIC	• **Web Engineering and Machine Learning Course graduate** • **Current Mentor**

Self-Introduction 2/3

Cedrick Justin

Background	• **Rwandan** • **Working remotely from Rwanda**
Education	• **BBIT, Mount kenya university**
Collaboration with DIC	• **Web Engineering and Machine Learning Course mentor**

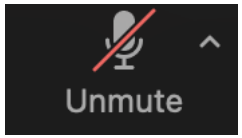
Self-Introduction 3/3

Jules Ntaganda

Background	• **Rwandan** • **Working remotely from Rwanda**
Education	• **BSc IT (Information Technology)**
Collaboration with DIC	• **Web Engineering and Machine Learning Course mentor**

Rules and Facts

- Mentors **don’t give answers**. They guide and give resources.
- The field of AI is growing extremely fast and new issues come up everyday. Please be aware that **Mentors don’t know everything**. In fact, no one does.
- Please **mute** and you can unmute if you have questions during the Q&A part.



- Please **attend** the mentoring sessions and **on time**.
- Make sure you are not asking for answers or solutions but **guidance** each time you ask question during the mentoring session.
- Mentoring sessions are **recorded** and **uploade**d on **Youtube**. The link will be shared on **Slack** after every session.

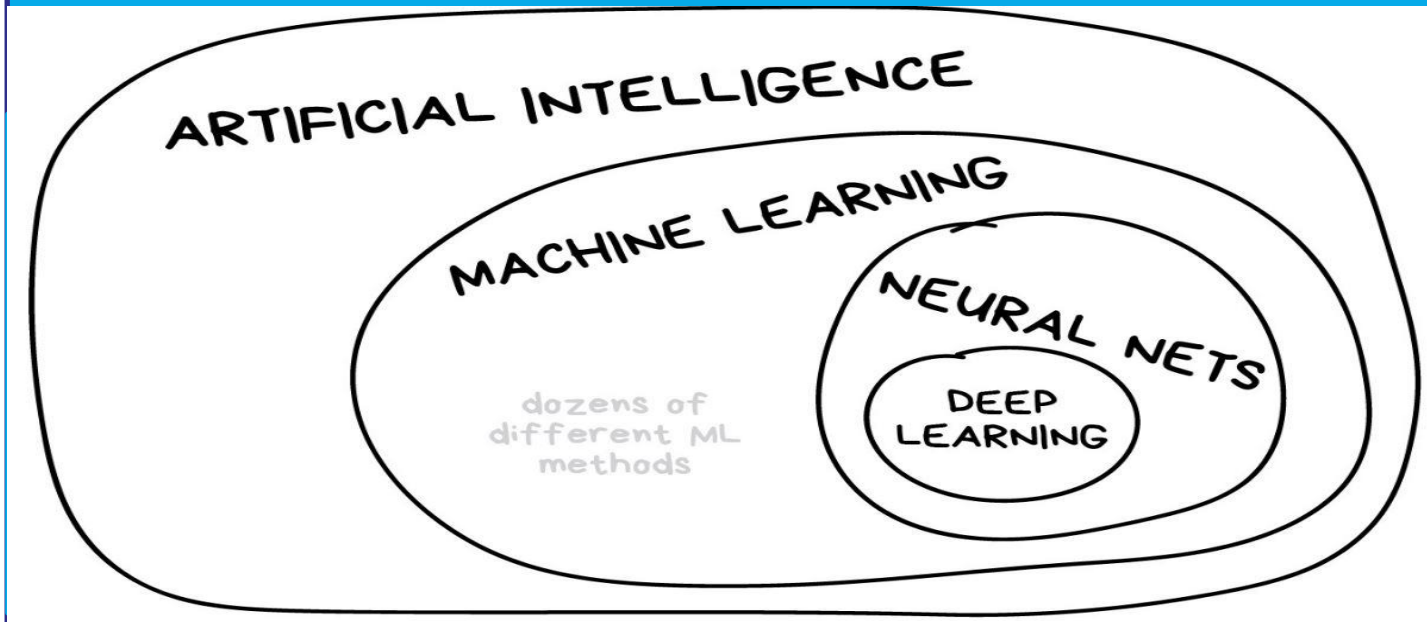
About Machine Learning 1/4

Artificial Intelligence

- It is composed of two words Artificial and Intelligence, where Artificial defines *"man-made"* and intelligence defines *"thinking power"*, hence AI means *"a man-made thinking power."*

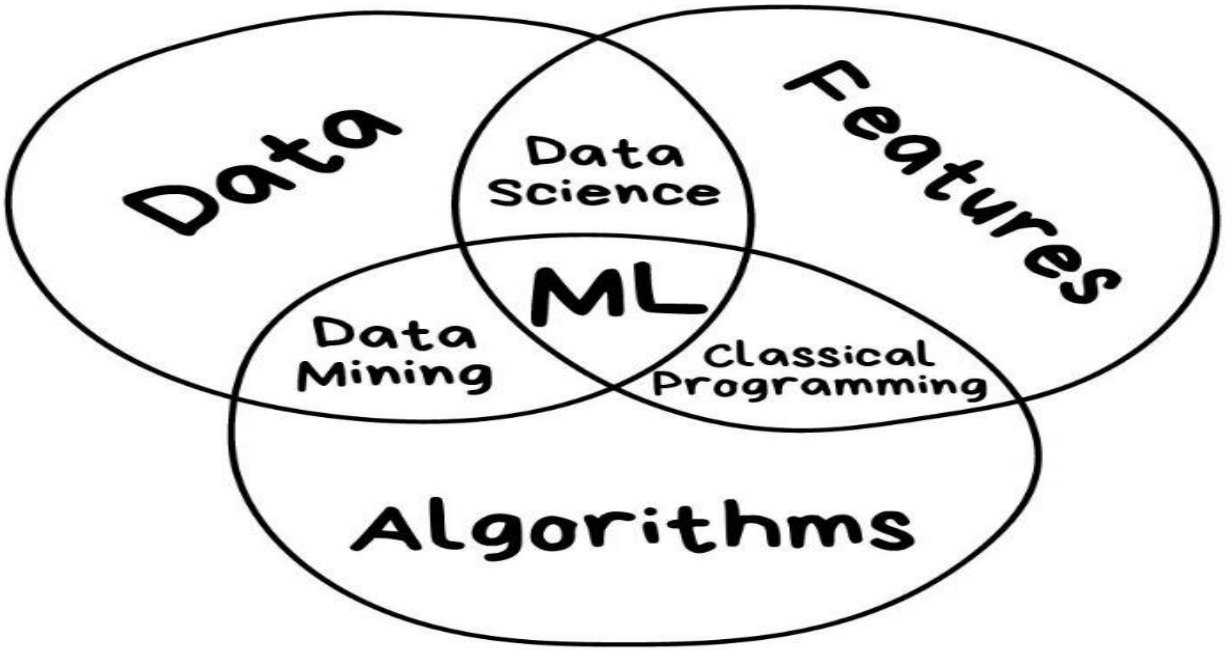
- "It is a branch of computer science by which we can create intelligent machines which can behave like a human, think like humans, and be able to make decisions."

https://www.javatpoint.com/artificial-intelligence-tutorial



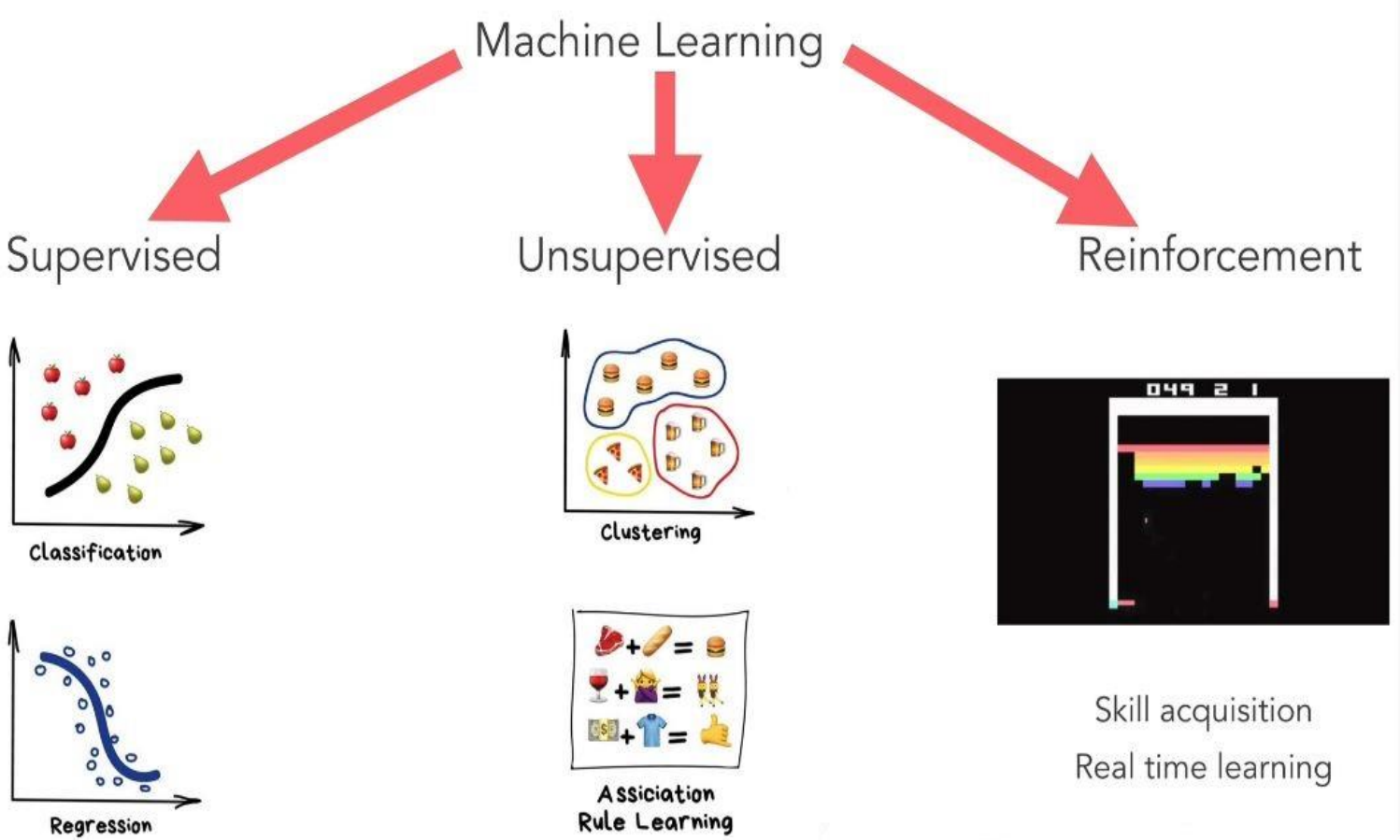
About Machine Learning 2/4

Machine Learning: “Field of study that gives computers the ability to learn without being explicitly programmed”*



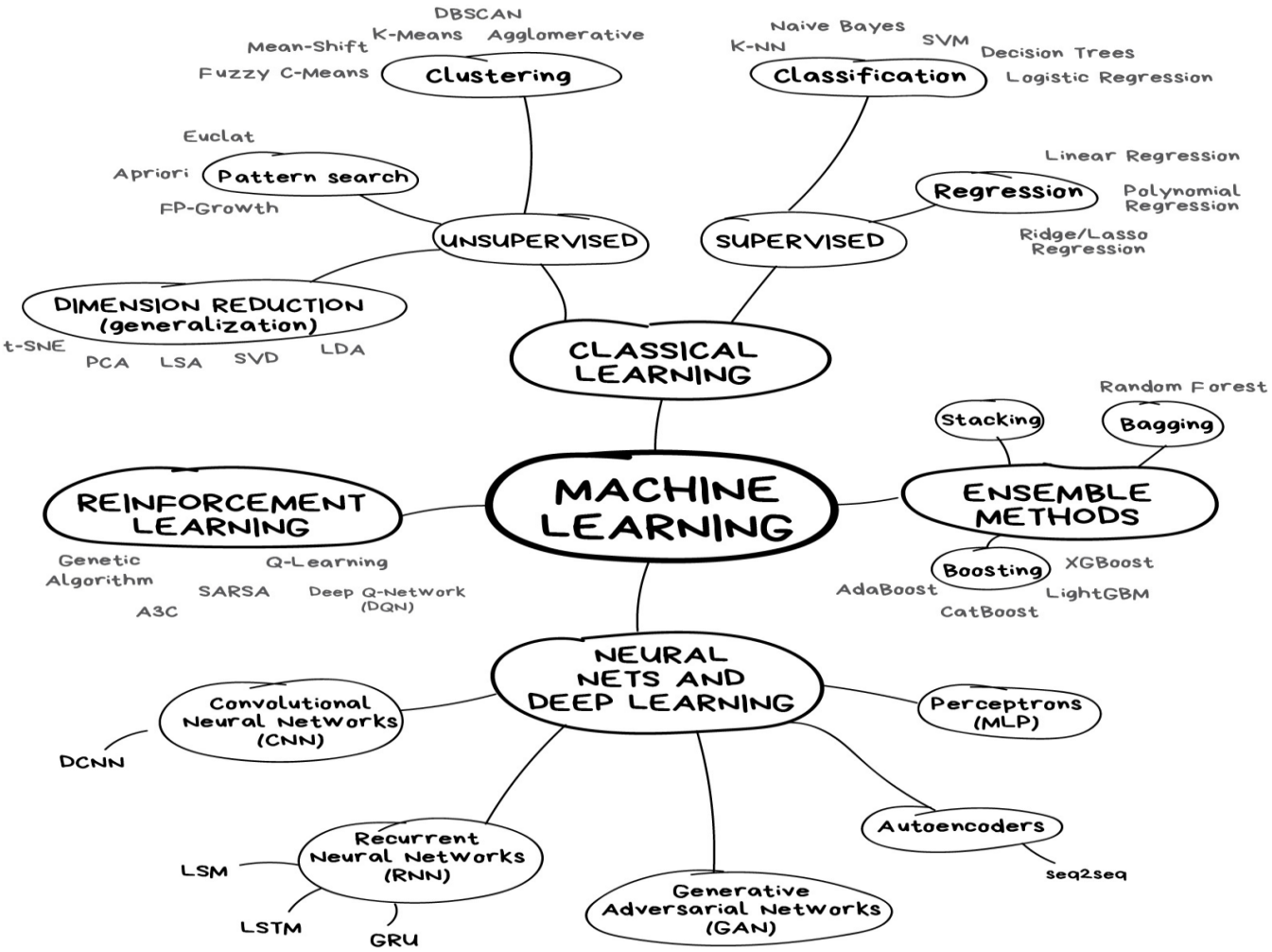
*** Arthur Samuel**

About Machine Learning 3/4



https://vas3k.com/blog/machine_learning/

About Machine Learning 4/4



https://vas3k.com/blog/machine_learning/

About this course

41 assignments

Pre-Learning Term

16 assignments distributed as follows:

- Introduction to Python: **4**
- Mathematics for Machine Learning: **5**
- Exploratory Data Analysis: **3**
- Introduction to Machine Learning: **4**

Machine Learning Term

8 assignments including 6 scratches

Deep Learning Term

16 assignments including 5 scratches, and papers reading

Engineer Project Term

Graduation assignment: More details to be provided later

About Mentoring sessions

Tutorials

- Markdown
- Python
- NumPy
- Data Analysis (Pandas)
- Data Visualization (Matplotlib, Seaborn)
- Scikit-learn
- ML algorithms

Assignments

- Clarification and Guidance on each assignment
- 1 to 2 assignments per session

Q&A

Environment

Use Jupyter Notebook locally or Google Colab

Locally

- Download and install Anaconda

https://diver.diveintocode.jp/curriculums/1391

- Launch Jupyter Notebook

Google Colab

- Prepare your Google account
- Open the colab page

https://colab.research.google.com/

Extra Resources

- Getting started with Jupyter Notebook

https://diver.diveintocode.jp/curriculums/1392

- How to use Google Colaboratory

https://diver.diveintocode.jp/curriculums/1499

Git/GitHub

- Open GitHub account

https://github.com/

- Download and Install Git

https://gitforwindows.org/ or https://git-scm.com/downloads

- Do SSH connection

Follow steps in https://diver.diveintocode.jp/curriculums/1395

- Create diveintocode-ml repository on GitHub
- Clone this repository locally

git clone git@github.com:username/diveintocode-ml.git

- Common git steps

git status
git add filename
git commit –m "commit message"
git push origin master

Markdown Basics

Python Tutorial (Part 1)

Introduction to Python assignments

Pre- class Assignment: Let's use Python
https://diver.diveintocode.jp/curriculums/1385

- 7 problems

Class Assignment 1: Sorori Shinzaemon problem
https://diver.diveintocode.jp/curriculums/1398

- 3 problems

Q&A

Thank You For Your Attention