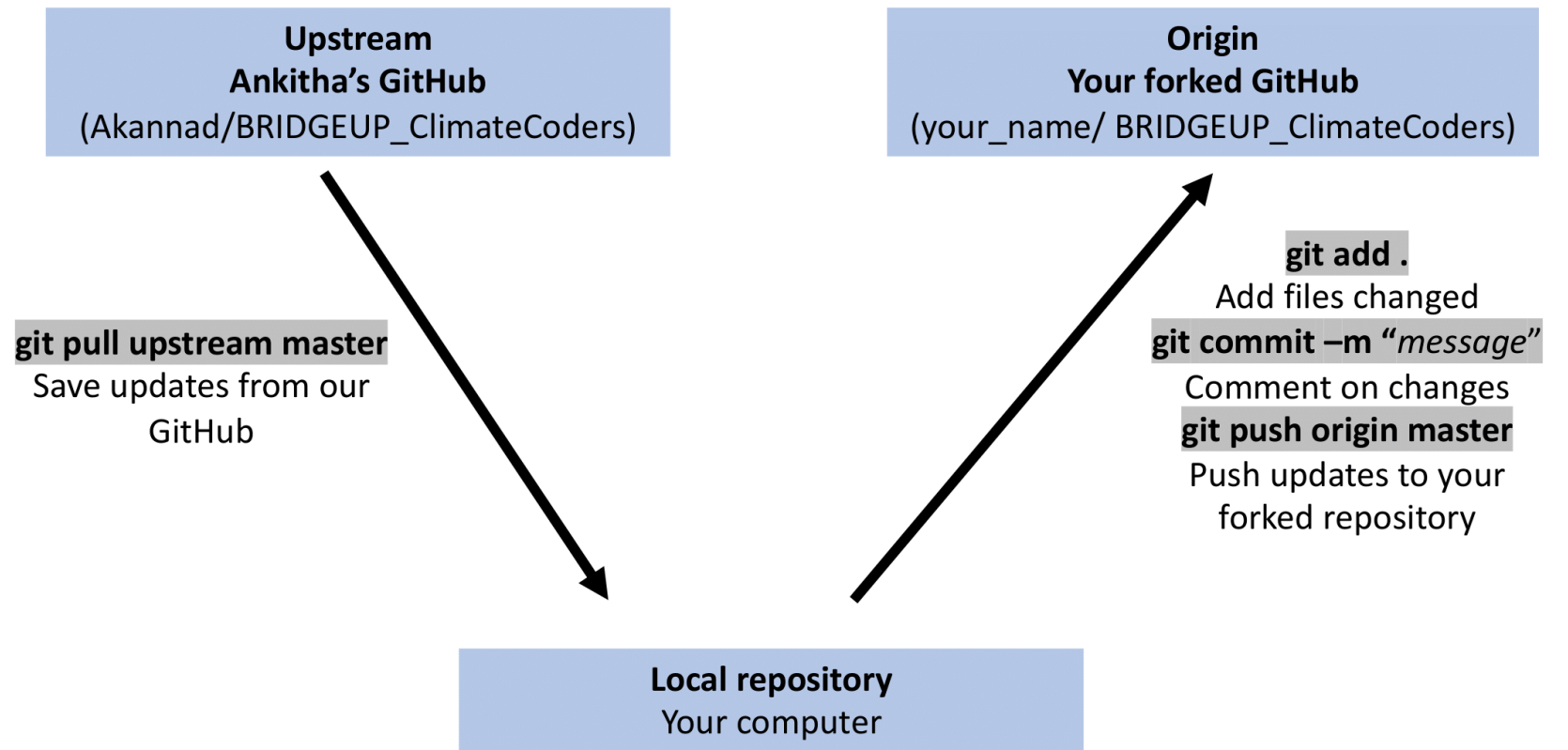# BASICS OF MACHINE LEARNING

UNIT 3: RECONSTRUCTING CORAL CORE DATA

MARCH 31TH 2020

HOUSEKEEPING

- Personal check-in
- Update cheat sheet
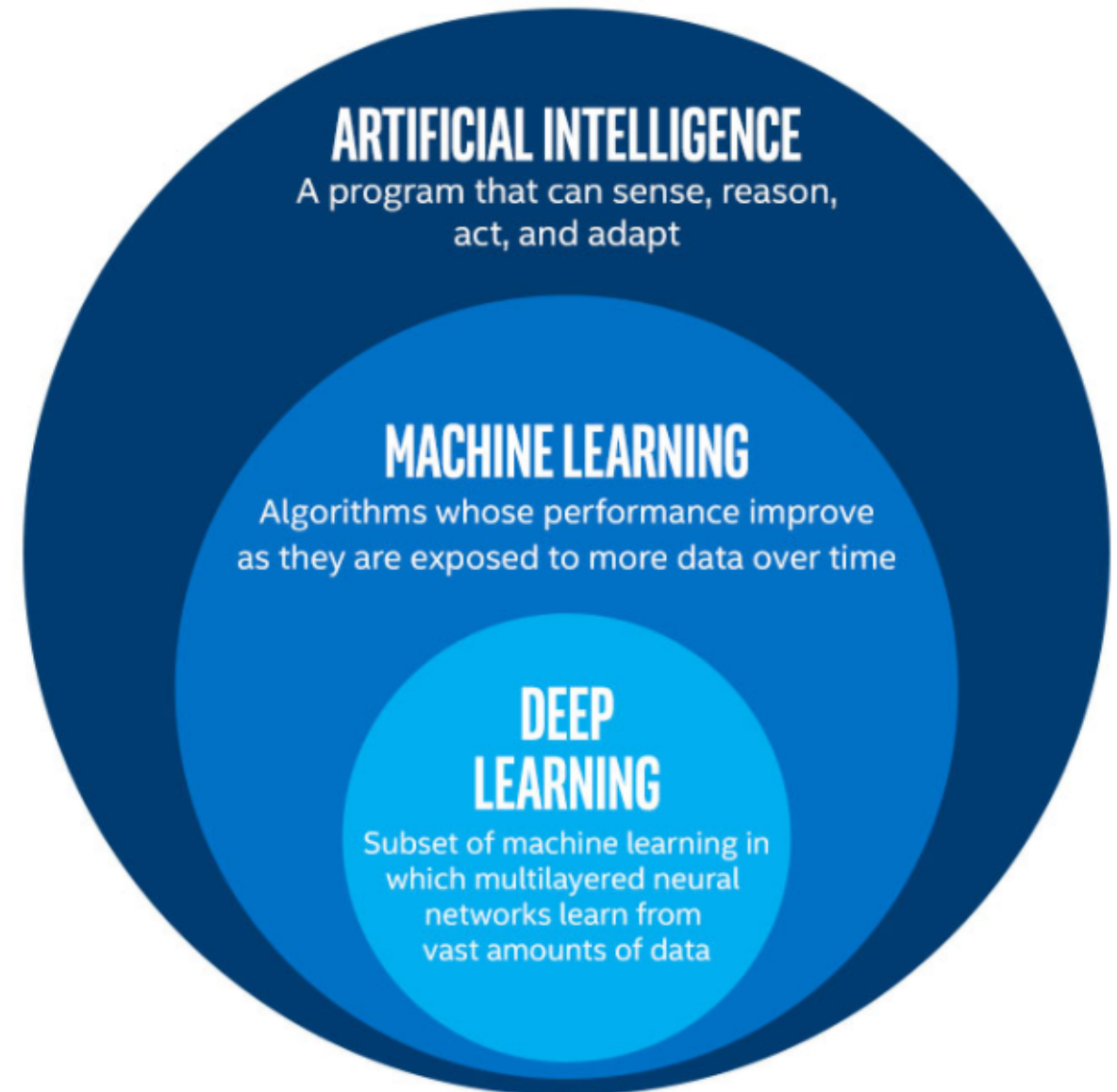- Whiteboard

Upstream
Ankitha's GitHub
(Akannad/BRIDGEUP_ClimateCoders)

Origin
Your forked GitHub
(your_name/ BRIDGEUP_ClimateCoders)

git pull upstream master
Save updates from our GitHub

git add .
Add files changed
git commit –m "*message***"**
Comment on changes
git push origin master
Push updates to your forked repository

Local repository
Your computer

PLAN FOR TODAY

❑Aside: What is AI and machine learning?

❑Finish converting time column to a readable format

❑Update lab notes

❑Exit survey

WHAT IS MACHINE LEARNING?

- On Slack, write down the first thing that pops to your mind when you hear artificial intelligence or machine learning

- Then, watch this quick introduction to machine learning:
  - https://www.youtube.com/watch?v=OeU5m6vRyCk

AI VS. MACHINE LEARNING

ARTIFICIAL INTELLIGENCE
A program that can sense, reason, act, and adapt

MACHINE LEARNING
Algorithms whose performance improve as they are exposed to more data over time

DEEP LEARNING
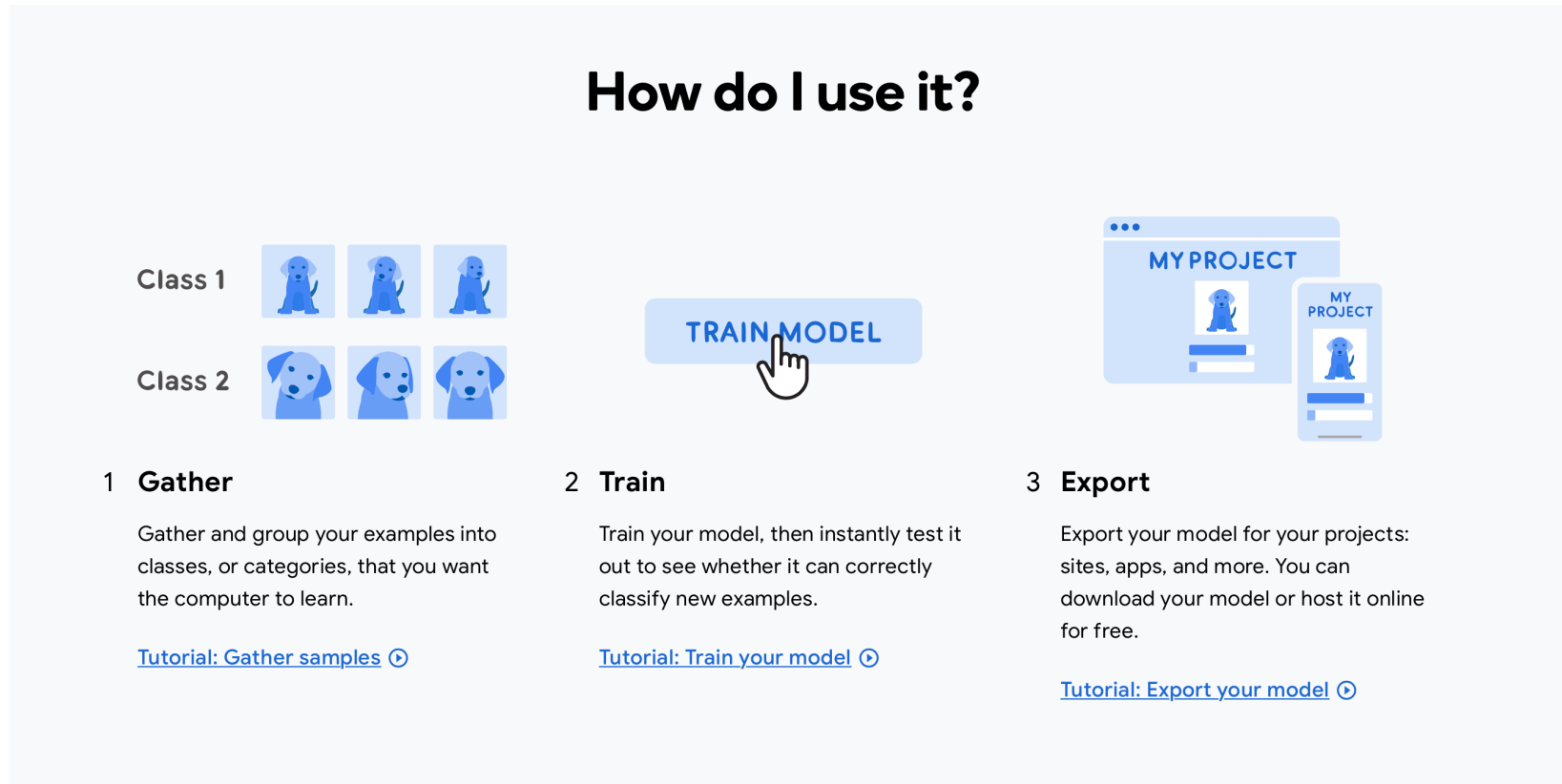Subset of machine learning in which multilayered neural networks learn from vast amounts of data

BREAK-OUT ROOMS

- Using the whiteboard feature:

  - Using the classifying images example from the video or one of your own, draw or write out the steps that go into a machine learning algorithm

- Is linear regression a type of machine learning?

LET'S SEE THIS IN PRACTICE!

Google Teachable Machine (https://teachablemachine.withgoogle.com)

CODING CHALLENGE

Dates are stored in a digital time format

For example

$1880.5 = 1880 + \frac{1}{2}$ of a year $= 06/1880$ or June 1880

Goal: Convert your date column into two separate columns of year and month

FUNCTION DISCUSSION

def convert_dates (**any dataframe**):

    your script

```
>>> def add(a, b):
        c = a+b
        return c
```

    return new dataframe with an additional year and month column

```
>>> print("The sum of a and b is")
The sum of a and b is
>>> print(add(4, 5))
9
```

Challenge: Add in a "Day" column where all the entries are 1

UPDATE LAB NOTES

EXIT SURVEY