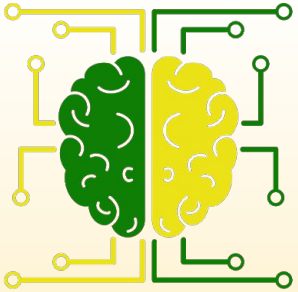
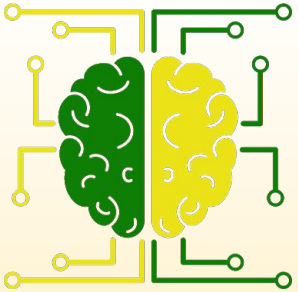


NEURALBERTATECH
Presents:



Virtual Environments and Data Types

September 24th, 2019

Created by Eden Redman & Zach Selk

Anaconda

What is it? Why use it?

Download here

Don’t be using <3

Version 3.7

Get the right OS

Recommend not getting the Navigator

Create Environment (env)

>conda create

>conda create --name Workshop

>conda create --name Workshop python=3.7

Activate env

>conda list env

>conda activate myenv

>conda list

python

pip

Setup env

>pip install numpy # python-specific packages

>conda install jupyter # application non-python-specific

Specify package version

> pip install spyder=3.3.6

Check env

Check versions of what we just installed

pip show <package>

or

conda list

Initialize Working Folder

Navigate to C:\Users\<user> in file explorer

Make “Workshop” folder

|----Subfolder “Day_1”

Opening spyder

Search spyder

or

Navigate to Anaconda application and start Spyder

or

>spyder # from the command line

What in the Web is Going On?!

View>Window Layouts>

File explorer

Variable Explorer

NEURALBERTATECH

interesting video

please use responsibly

Data

Integers

- Whole numbers (5, 1432, -123, etc.)

Floats

- Real numbers (3.14, 0.000001, 82.0, etc.)

Strings

- The representation of text on a computer (“Hello”, “world”)

Arrays

- A list of items, such as integers [1,2,3], floats [1.1,1.2], or strings [“foo”,”bar”]

Working with numbers

In [1]: random_number = 23

In [2]: random_number = random_number + 55.3

In [3]: print(random_number)

78.3

Working with strings

In [1]: my_string = “My favourite club is”

In [2]: print(my_string)

“My favourite club is”

In [3]: my_new_string = my_string + “ NeurAlbertaTech”

In [4]: print(my_new_string)

“My favourite club is NeurAlbertaTech”

Working with arrays

In [1]: list_of_numbers = [1, 2, 3, 6]

In [2]: list_of_numbers.append(30)

In [3]: print(list_of_numbers)

[1, 2, 3, 6, 30]

In [4]: bigger_list = [10, 34, 29, 5] + list_of_numbers

In [5]: print(bigger_list)

[10, 34, 29, 5, 1, 2, 3 ,6, 30]

Working with arrays (Indexing)

In [1]: array = [1, 2, 3, 4, 5]

In [2]: print(array[0]))

1

In [3]: print(array[1:3])

[2, 3]

In [4]: print(array[2:])

[3, 4, 5]

Working with arrays (removing)

In [1]: names = [“Tom”, “Jess”, “Bob”]

In [2]: print(names[-1])

“Bob”

In [3]: names.pop(1)

“Jess”

In [4]: print(names)

[“Tom”, “Bob”]

Working with arrays (adding)

In [1]: cities = [‘Edmonton’, ‘Calgary’]

In [2]: cities.insert(1, ‘Lethbridge’)

In [3]: print(cities)

[‘Edmonton’, ‘Lethbridge’, ‘Calgary’]

Dictionaries

In [1]: phone_numbers = {}

In [2]: phone_numbers[‘Ted’] = ‘(111) 222-3333’

In [3]: phone_numbers[‘Jim’] = ‘(123) 456-7898’

In [4]: print(phone_numbers[‘Jim’])

‘(123) 4567-8989’

In [5]: print(phone_numbers)

{‘Ted’: ‘(111) 222-3333’, ‘Jim’: ‘(123) 456-7898’}