PyData Impact Scholars Meeting @ 5th May 2023

~Meetups, Networking and Data Science

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About Me

~ Takes care of the community & OSS @ Zarr

~ Chair @ PyData Delhi and Global ‘20 & ‘21

~ Worked with forensics, startups, organisations

~ Sometimes I play the Violin

/msankeys963

Repository 👇

Slides 👇

What I'm gonna talk about?

- ➔ What is PyData and NumFOCUS?
- ➔ Why start a meetup chapter?
- ➔ What if it's growing slowly?
- ➔ How can you benefit professionally?
- ➔ Networking 101

What I'm gonna show you?

- ➔ What is Data Science & ML?
- ➔ Data Science Pipeline
- ➔ Hands-On
- ➔ What we've done so far!
- ➔ Scope

Important Links! ;)

~numfocus.org

~pydata.org

~meetup.com/pro/pydata

/pydata

What is Data Science & ML? 🤔

Data science is an interdisciplinary field that uses scientific methods, processes, algorithms and systems to extract knowledge and insights from structured and unstructured data!

What is Data Science & ML? 🤔

Machine learning, on the other hand, refers to a group of techniques used by data scientists that allow computers to learn from data. These techniques produce results that perform well without programming explicit rules.

What does a general machine learning pipeline looks like? 🧐

Pipeline... 😀

~ Identify the problem

~ Data Collection

~ Data Pre-processing

~ Data Visualisation and Feature Engineering

~ Modelling and Prediction

~ Performance of the models

Enter Python! 🐍

~ Created by Guido van Rossum in 1991

~ Object Oriented Language

~ Maintained by PSF

~ Has over ~100 current core contributors

Print Statements! 

```
>>> print("Hello Gargi Folks!")
Hello Gargi Folks
```

Comments! # #

```
#This is a comment

>>> print("This will get printed!") #But this won't
This will get printed!
```

Variables! x q z

```
>>> x = 5
>>> y = "John"
>>> z = 7

>>> p = str(3)    # p will be '3'
>>> q = int(3)    # q will be 3
>>> r = float(3)  # r will be 3.0

>>> print(x)
5
>>> print(r)
3.0

>>> print(type(p)
<class 'str'>

>>> z = 'awesome!"
>>> print("All the folks present here are" + z)
All the folks present here are awesome!

>>> print(x+y)
12

>>> myVariableName = "John" #Camel Case
>>> MyVariableName = "John" #Pascal Case
>>> my_variable_name = "John" #Snake Case
```

Data Types! 👨🏻‍💻

~ Text: str

~ Numeric Types: int, float, complex

~ Sequence: list, tuple, range

~ Set Types: set, frozenset

```python
>>> x = str("Hello Gargi!")

>>> x = int(20)

>>> x = float(20.5)

>>> x = complex(1j)

>>> x = list(("apple", "banana", "cherry"))
>>> x
['apple', 'banana', 'cherry']

>>> x = tuple(("apple", "banana", "cherry"))
>>> x
('apple', 'banana', 'cherry')
# Tuples are immutable; cannot change once created

>>> x = dict(name="John", age=36)
>>> x
{'name': 'John', 'age':36}

>>> x = set(("apple", "banana", "cherry"))
# Set is unordered, unchangeable and no duplicates allowed
```

Conditions and Loops! 🔁

~ Conditions: If … else

~ Loops: While & for loops

```
#if statement

>>> a = 33
>>> b = 200
>>> if b > a:
...     print("b is greater than a")

#elif statement
>>> a = 33
>>> b = 33
>>> if b > a:
...     print("b is greater than a")
    elif a == b:
...     print("a and b are equal")

#else statement
>>> a = 200
>>> b = 33
>>> if b > a:
...     print("b is greater than a")
    elif a == b:
...     print("a and b are equal")
    else:
...     print("a is greater than b")
```

```
#while loops
>>> i = 1
>>> while i < 6:
...     print(i)
...     i += 1


#while with break statement
>>> i = 1
>>> while i < 6:
...     print(i)
...     if i == 3:
...         break
    i += 1


#for loops
>>> fruits = ["apple", "banana", "cherry"]
>>> for x in fruits:
...      print(x) #will loops through each element in the list

>>>for x in "banana":
...     print(x) #will loop through every letter in the string
```

Functions! 🧠

~ block of code which only runs when it is called

~ defined using ‘def’ keyword

~ can pass data, known as parameters, into a function

~ function can return data as a result

```
# calling a function
>>> def my_function():
...     print("Hello from a function")

>>> my_function()
Hello from a function

#passing an argument
>>> def my_function(fname):
...     print(fname + "Ref")

my_function("Emily")
my_function("Tobias")
my_function("Linus")

#return values
>>> def my_function(x):
...     return 5 * x

>>> print(my_function(3))
>>> print(my_function(5))
>>> print(my_function(9))
```

Now, let’s get our hands dirty! 👨🏻‍💻

Let’s see some code! 

Conclusion!

What we've learned so far?

🥺

Was it good!?
Did you like it?

🤔

Scope 👀

~ play around with datasets and make your own predictions

~ deep dive into real world problems and solve them! 😄

~ use python to create cool stuff

~ machine Learning is used in almost every product we see!

Thank you! 🙌🏻