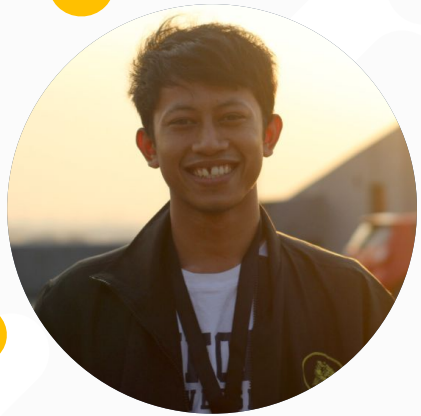

Introduction python & ai

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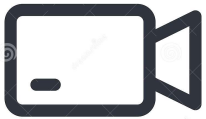
Online Classroom Rules

Make sure the **internet network** is stable



Always turn on the **webcam** during class

Mute microphones when facilitator explain, except Q&A

Click the “raise hand” button **when asking**

Using earphones are highly **recommended**

Recording class is prohibited

Hands on python basic

python basic


Sudah lumayan paham
materi tentang array
Objects and Classes
tdk bisa run gcollab
beda numpy dan panda
Belum ada
Tentang pandas
Tidak ada
dari modul 2
sejauh ini belum ada
semuanya kurangpaham

NumPy, short for Numerical Python, is one of Python's core packages for scientific computing. This library is made up of multidimensional array objects, as well as a set of routines designed to process them. NumPy is a powerful tool for performing a variety of logical and mathematical tasks.

The following are some of the main advantages of working with NumPy for data analytics:

- NumPy is particularly useful for creating data objects with N dimensions.
- Its framework performs quickly and smoothly when working on homogenous datasets.
- When used for numerical calculations, NumPy arrays use less memory than Python lists. It also allows users to specify the types of data in the contents, which can optimize code.
- NumPy can efficiently store data and data operations, especially as arrays increase in size.
- It is not difficult to perform mathematical operations on the data stored in NumPy.
- NumPy allows users to increase their workflow speed.
- It is able to interface with other Python packages. Since NumPy has been around for a relatively long time, nearly all machine learning and data analytics packages for Python use NumPy in some capacity.

Pandas is an open-source BSD-licenced Python package that is built on top of NumPy. It is generally used for machine learning tasks, as well as data analytics and data science. Pandas offers user-friendly, easy-to-use data structures and analysis tools for working with time series and numeric data.

Pandas is considered to be one of the best data-wrangling packages. It also functions well with various other data science Python modules. By combining the functionality of Matplotlib and NumPy, Pandas offers users a powerful tool for performing data analytics and visualization.

The following list highlights some of the most helpful features Pandas offers for data analytics:

- Pandas is known for its exceptional ability to represent and organize data.
- The Pandas library was created to be able to work with large datasets faster and more efficiently than any other library. It excels at analyzing huge amounts of data.
- Data can be imported to Pandas from a variety of file formats, such as SQL, Excel, and JSON, among others.
- When a Pandas user writes a line or two of code, it's possible to perform tasks that would require more than ten or fifteen lines of code using Java or C++. This efficiency helps novices work with Pandas.
- Pandas is considered to be a robust library that features an array of features and commands that make data analysis easier.
- Because Python is one of the most popular programming languages in the world, learning how to code in Pandas for Python is a versatile and marketable skill set that can gain the attention of employers.
- Users can edit and customize Pandas by selecting from its extensive feature list.

Difference between Pandas and Numpy

Let's look at the side-by-side comparison of Pandas and Numpy in this table:

Pandas vs NumPy	
Pandas	**NumPy**
When we have to work on **Tabular data**, we prefer the pandas module.	When we have to work on **Numerical data**, we prefer the NumPy module.
The powerful tools of pandas are **DataFrame and Series.**	Whereas the powerful tool of NumPy is **Arrays.**
Pandas consume **more memory**.	Numpy is **memory efficient.**
Pandas have a better performance when the number of rows is **500K or more.**	Numpy has a better performance when number of rows is **50K or less.**
Indexing of the Pandas series is **very slow** as compared to Numpy arrays.	Indexing of Numpy arrays is **very fast.**
Pandas have a 2D table object called **DataFrame.**	Numpy is capable of providing **multi-dimensional arrays.**
It was developed by **Wes McKinney** and was released in **2008**.	It was developed by **Travis Oliphant** and was released in
It is used in a lot of organizations like Kaidee, Trivago, Abeja Inc., and a lot more.	It is being used in organizations like Walmart Tokopedia, Instacart, and many more.
It has a higher industry application.	It has a lower industry application.

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