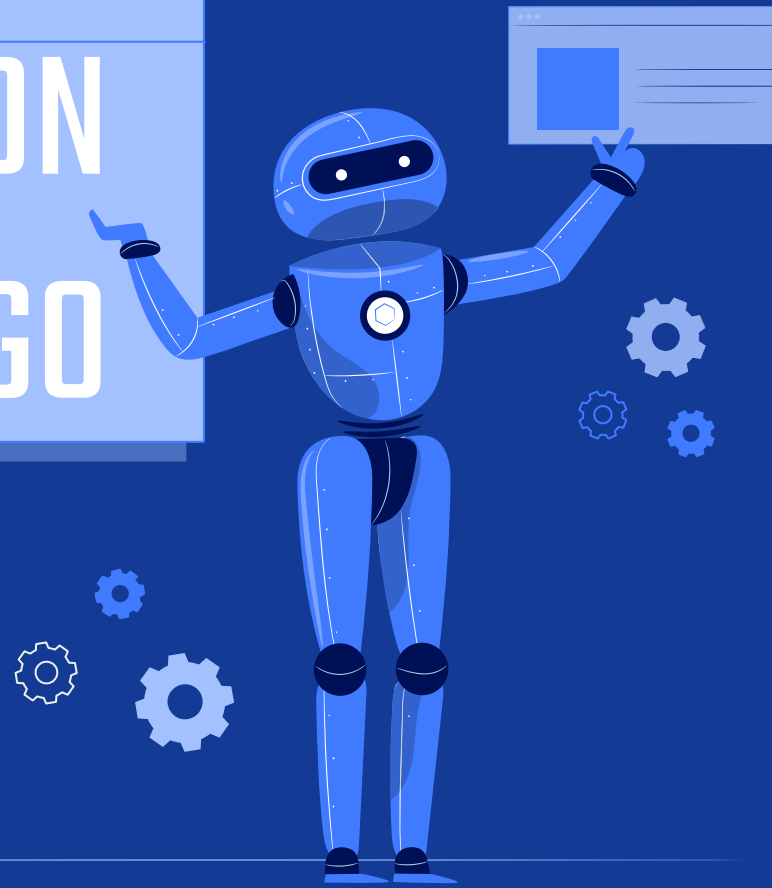
# PYTHON DJANGO

in the cloud



Loyanne Repolho

# ABOUT ME

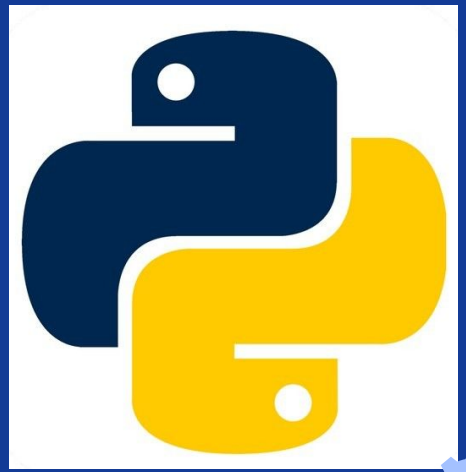
Loyanne, a woman, 31 years old, Brazilian, proudly from Manaus.

- a emergency doctor
- Software Engineer and Data Scientist at Dados e Saude (Data & Health)
- developed a skill for Alexa aimed at patients with Arterial Hypertension
- with a restless and disruptive mind, she is an enthusiast in Artificial Intelligence, Data Science, Machine Learning, Design Thinking, and everything that involves health and technology
- whenever possible, she works in the community with open source contributions
- actively encourages other women to become even more interested in technology

# Python is for everyone

01.

Python is a high-level, interpreted, scripted, imperative, object-oriented, functional, dynamic, and strong typing programming language.



02.

Open-source
Multi paradigms, extensible, many libraries

# PYTHON IN THE CLOUD

# Python in the cloud

When data sets are large, cloud users can spool large tasks on rented hardware that can do all the work much faster.

Now you can push the button, create dozens of cloud instances loaded with tons of memory, and watch your code fail in a few minutes, saving time and often money.

There are dangers too. The biggest is the amorphous concern for privacy.

Some data analysis involves personal information from people who have trusted you to protect it. We are used to the security issues involved in blocking data on a hard drive in your lab. It is difficult to know exactly what is happening in the cloud.

So much so that today we have HIPAA in the USA, which is responsible for regulating this data.

# Every day the complexity to do Data Science. This is driven by three main factors:

1. Increase in data generation
2. Low cost of data storage
3. Cheap computing power

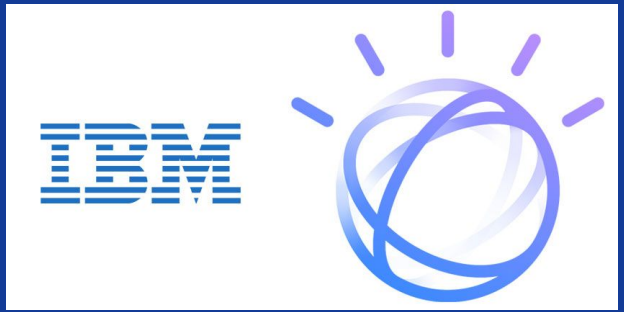
# What's the point of running in the cloud?

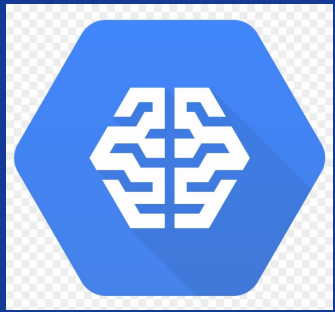
1. Need to execute solutions that gain scale
2. Cost
3. Collaboration
4. Sharing
5. Extensive ecosystem for deploying machine learning systems
6. Rapid prototype construction

# Options for running Data Science in the cloud:

1. Amazon Web Services (AWS)
2. Machine Learning Azure
3. Google Cloud Machine Learning Engine
4. IBM Watson Studio





# Challenges in running Data Science in the cloud:

1. Reluctance to share data with third parties

2. Need to upload/download large amounts of data

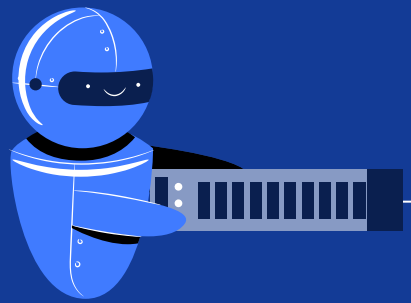
It is a framework for web development using Python, before that we need to understand the Model Template View (MTV). MVT is the architecture used by Django.

# Django for Data Science

Data Quality and Cleanliness

# Scalability and efficiency tips

- Data storage
- Avoid memory leak



# Pandas

## Series X Dataframe

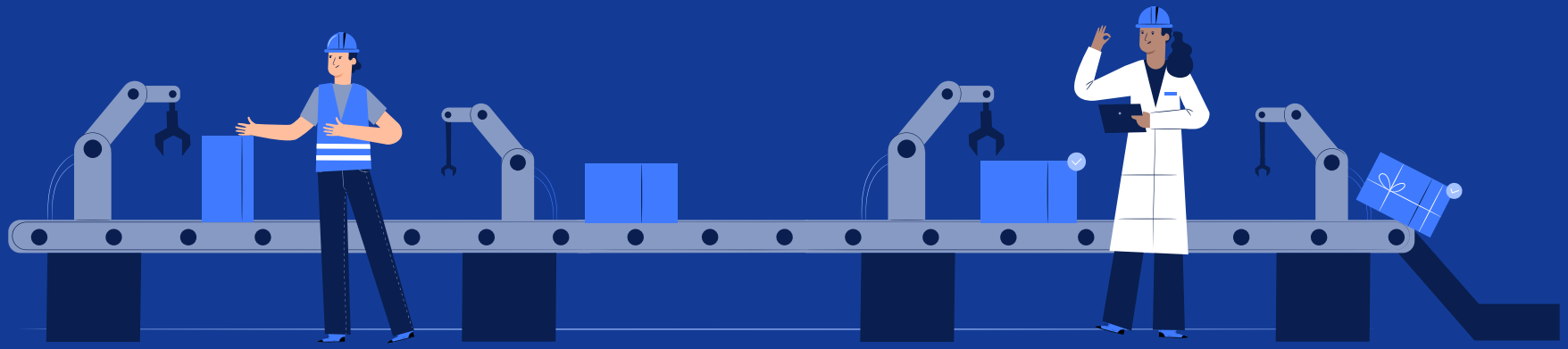
It is like a one-dimensional array, a list of values. Every series has an index, the index, which gives labels to each element of the list.

```
['Doe, John', 54, 23.5, 0, 1, 115]
```

A Dataframe is a two-dimensional data structure, like a spreadsheet.

```
[
    ['Doe, Jane', F, 54, 23.5, 0, 1],
    ['Doe, John', M, 56, 34.2, 0, 0],
    ['Doe, Jenny', F, 11, 77.0, 1, 1],
    ['Doe, Jake', M, 17, 28.3, 0, 1],
    ...
]
```

Cloud computing must continue to gain ground because of the benefits it offers, and it is only a matter of time before some of these services become the standard (if they are not already). I hope you find these services useful and that they will help you when you need them.



# THANKS

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