

✓ Why do you use python for machine learning? Give a complete answer, not like multiple messages, think through, formulate answer and then write, assume you are answering to interviewer.

✓ unfold - data - science

- ① Easy to program
- ② Inbuilt features
- ③ easy integrable
- ④ Libraries
- ⑤ Widely accepted

Python is a popular programming language for machine learning for several reasons:

1. Easy to Read and Write: Python has a simple and easy-to-understand syntax, making it easier for developers to write and read code quickly.
2. Large Community and Libraries: Python has a vast community of developers who contribute to open-source libraries such as NumPy, Pandas, Scikit-Learn, TensorFlow, and Keras, which makes implementing machine learning models much simpler.
3. Flexibility: Python supports various programming paradigms, including object-oriented, functional, and procedural programming, allowing developers to choose the best approach for their project.
4. Interoperability: Python can easily integrate with other languages such as R, Java, and C++, enabling developers to use external libraries written in different languages.
5. Scalable: Python's ability to scale up or down makes it a suitable option for both small and large-scale projects.


Overall, Python's ease of use, robust libraries, and flexibility make it a top choice for machine learning development.

You have to train a 24GB dataset using a neural network with a machine which has just 6GB RAM. How would you go about it?

① Reduce batch size/Use batch mode

② . Numpy arrays

MDNAR



Training a 24GB dataset with only 6GB of RAM is a challenging task, but it can be done by using some memory optimization techniques. Here are some suggestions:

Batch Processing: Split the dataset into smaller batches to reduce the amount of memory required for each iteration of training. By processing the data in smaller chunks, you can fit the data into the available memory and train the model efficiently.

Use a Generator: Instead of loading the entire dataset into memory, use a generator that loads one batch of data at a time. This approach reduces memory consumption significantly, allowing you to work with larger datasets.

Reduce Model Complexity: Simplify your neural network architecture, reducing the number of layers, parameters or using smaller data types to help reduce the amount of memory required to store the model.

Use Transfer Learning: Use pre-trained models such as VGG16 or ResNet instead of building a new model from scratch. Transfer learning

can leverage the knowledge gained from training on large datasets, saving memory and time.

Use Cloud Services: If all else fails, consider moving the workload to a cloud-based platform with more powerful hardware that has sufficient resources to handle large datasets.

In conclusion, Training a 24GB dataset with a machine that has just 6GB RAM requires memory optimization techniques like batch processing, generators, reducing model complexity, transfer learning, or using cloud-based services.

A. Explain a business scenario and how did you solve this? Use **STAR**, please formulate answer carefully and write (There can be cross questions to you)

S (Situation) → Manual task
T (Task) → Automate this tagging
A (Action) → Apply ML to classify
R (Result) → Reduction of effort by 80%

I give you 5L milk container and a 9L milk container. How would you use these two to measure one litre of milk?

→ Make sure you understand puzzle
→ Ask questions
→ Showcase logical ability

← (1) ← (9) ←

Here's one way to measure 1 liter of milk using a 5 liter and a 9 liter container:

Fill the 9 liter container with milk.

Pour milk from the 9 liter container into the 5 liter container until it is full, leaving 4 liters of milk in the 9 liter container.

Empty the 5 liter container.

Pour the remaining 4 liters of milk from the 9 liter container into the 5 liter container.

Fill the 9 liter container again with milk.

Pour milk from the 9 liter container into the 5 liter container until it is full, which will leave only 1 liter of milk in the 9 liter container.

Now you have 1 liter of milk in the 5 liter container.

How will the behaviour of loop change

```
for i in range(10):
```

```
    if (i==4):
```

```
        continue/break/pass
```

```
    print(i)
```

Continue - 0,1,2,3 5⁴ 6 7 8 9
Break - 0,1,2,3
Pass - 0,1,2,3 5, 7, 8, 9

```

for i in range(10):
    if (i==4):
        continue
    print(i)

```

0
1
2
3
5
6
7
8
9

```

for i in range(10):
    if (i==4):
        break
    print(i)

```

0
1
2
3

```

for i in range(10):
    if (i==4):
        pass
    print(i)

```

0
1
2
3
4
5
6
7
8
9

In what kind of scenarios ARIMA work well and where It does not work well?

AR →
I →
MA →

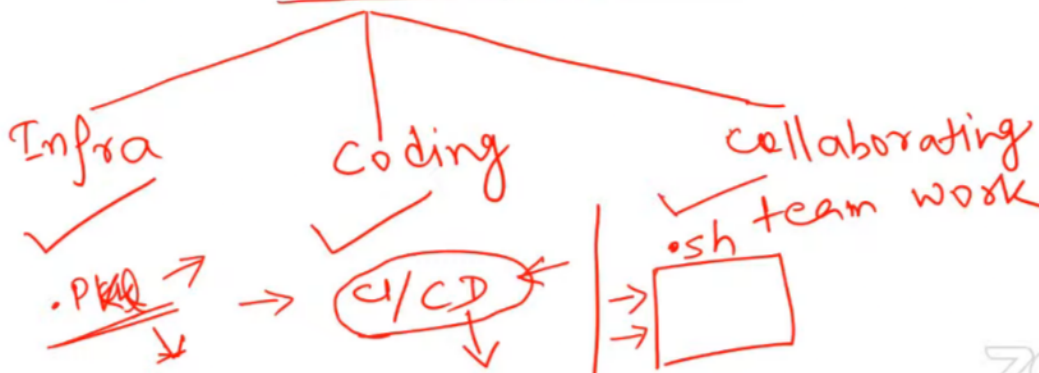
✓ Traffic on Travellodge website

✓ Stock price pred

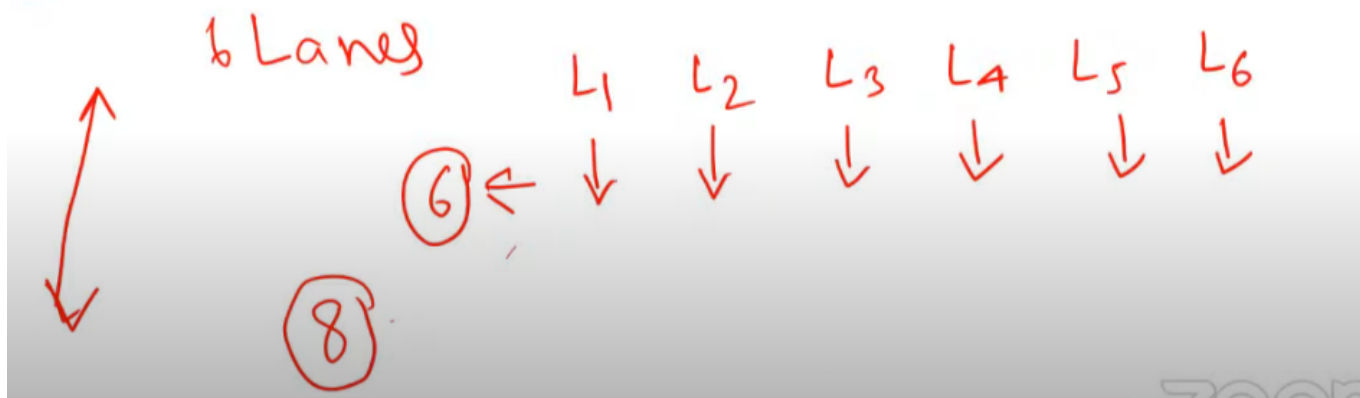
Fb
VR

LSTM

A. Explain a technical scenario and how did you solve this? please formulate answer carefully and write (There can be cross questions to you)



Given car track has 6 lanes, I ask you to find the 4 fastest cars out of 36.
How many races are needed?



1. Divide the 36 cars into 6 groups of 6.
2. Conduct a race among each group to determine the fastest car in each group. Eliminate the slowest car from each group after each race, leaving us with 6 remaining cars.
3. Conduct a final race among the 6 remaining fastest cars to determine the overall winner.
4. Repeat steps 1-3 with the remaining 30 cars (excluding the overall winner) until we are left with 4 cars.

Using this method, we would need 2 races to eliminate 30 cars, then 2 more races to eliminate 20 cars, and another 2 races to eliminate 12 cars. Finally, we would have 2 cars left, and one last race would be needed to determine the fourth fastest car.

Therefore, the total number of races required to find the 4 fastest cars out of 36 is 8. Thank you for bringing this to my attention.

Write down three code snippets to get last item from the list

[32,31,34,32,42]

- ① `l[-1]`
- ② `l[len(l) - 1]`
- ③ `l.pop()`

What distance metrics you know for

- 1. continuous data → ^{cos k /} Euclidean / Manh / mahalanobis
- 2. categorical data → cosine / hamming /

A. Why are you looking for a change in JOB? Important question – very common one.

Don't

- Bad things about current job
- Show lot of love for money

Do

- grow skill
- grow organization
- Long associated
- Values & thought

A frog is currently at the bottom of a 65-meter well is trying to come out
. Each hour, the frog climbs 5 meters and slips down 3 meters. How long
would it take for the frog?



$$30 \times 2 = 60$$

31 days

