Evaluation Model

Introduction

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1. Which of the following is the fifth stage in the AI Project Cycle?

A) Data Acquisition

B) Modelling

C) Evaluation

D) Problem Scoping

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2. What is the main purpose of the Evaluation stage in the AI Project Cycle?

A) To gather more data

B) To visualize the dataset

C) To check which AI model performs best

D) To clean the dataset

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3. Why is Model Evaluation important in AI development?

A) It helps collect more accurate data

B) It helps find the best model for the data

C) It helps design user interfaces

D) It skips the modelling process

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4. What does model evaluation help us predict?

A) The size of the dataset

B) Future problems in data collection

C) How well the model will work on new data

D) The amount of memory the model uses

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5. What question does the Evaluation stage help to answer?

A) How to create more models

B) How to improve visual appeal

C) Which model works better

D) How to store large data files

What is Evaluation?

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6. What is the purpose of model evaluation in AI?

A) To collect more training data

B) To visualize graphs

C) To understand the performance of a machine learning model

D) To install the model in real life

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7. Model evaluation in AI is similar to what in a student's life?

A) Doing homework

B) School report card

C) Attending class

D) Completing projects

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8. What helps improve an AI model during evaluation?

A) Watching tutorials

B) Rewriting the code completely

C) Getting constructive feedback from evaluation metrics

D) Collecting fewer data points

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9. What is the process of improving model performance through evaluation called?

A) Training

B) Feedback loop

C) Data collection

D) Filtering

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10. Which of the following is NOT an example of academic performance evaluation (used as an analogy)?

A) Grades

B) Percentiles

C) Model weights

D) Ranks

Need of Model Evaluation

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11. What is model evaluation compared to in the passage?

A) A user manual

B) A school timetable

C) A report card

D) A calculator

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12. What does model evaluation help us understand about an AI model?

A) The total size of data used

B) Its cost and memory use

C) Its strengths, weaknesses, and task suitability

D) The type of hardware needed

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13. Why is the feedback loop important in model evaluation?

A) It helps update the user interface

B) It improves data storage

C) It helps build trustworthy and reliable AI systems

D) It deletes extra features from the model

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14. What should be considered before selecting an evaluation technique?

A) The amount of money spent

B) The type and purpose of the model

C) The number of team members

D) The look and feel of the AI interface

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15. Which of the following best describes the need for model evaluation?

A) To make a model look cool

B) To create confusing results

C) To judge the model's performance and reliability

D) To reduce the number of features

Splitting the Training Set Data for Evaluation – Train-Test Split

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16. What is the main purpose of the train-test split technique?

A) To visualize the dataset

B) To reduce the number of features

C) To evaluate the performance of a machine learning algorithm

D) To improve data collection

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17. The train-test split method is used with which type of learning?

A) Unsupervised Learning

B) Supervised Learning

C) Reinforcement Learning

D) Deep Learning only

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18. What does the train-test split technique do to the dataset?

A) Deletes unused columns

B) Merges multiple datasets

C) Divides the data into training and testing subsets

D) Compresses the data

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19. When is the train-test split method most appropriate?

A) When the dataset is very small

B) When the dataset has missing values

C) When there is a sufficiently large dataset

D) When using only unsupervised models

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20. What is the role of the testing dataset in a train-test split?

A) To visualize patterns

B) To train the model

C) To evaluate how well the model performs on unseen data

D) To clean the training data

🧠 Need of Train-Test Split

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21. What is the purpose of the training dataset?

A) To test how accurate the model is

B) To visualize data

C) To help the model learn patterns and relationships

D) To store unused features

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22. What is the test dataset used for?

A) To teach the model new data

B) To clean unwanted data

C) To evaluate the model by comparing predicted and actual values

D) To build visual charts

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23. Why do we evaluate the model on data it hasn’t seen before?

A) To confuse the model

B) To ensure the model performs well on new data

C) To reduce training time

D) To simplify the dataset

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24. What is the risk of evaluating a model using the same data it was trained on?

A) The model will underperform

B) The model will stop predicting

C) The model may overfit and memorize the data

D) The model will break the dataset

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25. What does overfitting mean in machine learning?

A) The model is too slow

B) The model performs poorly on training data

C) The model only works on old data

D) The model memorizes the training data and performs poorly on new data

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🧠 Accuracy and Error

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26. What does accuracy measure in a machine learning model?

A) Total number of errors made by the model

B) Number of features in the dataset

C) Total number of correct predictions made by the model

D) Time taken to train the model

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27. How is the performance of a model related to its accuracy?

A) Higher performance means lower accuracy

B) Performance and accuracy are not related

C) Performance is directly proportional to accuracy

D) Accuracy decreases with performance

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28. What is error in machine learning?

A) A virus in the model

B) The correct prediction made by the model

C) The difference between predicted and actual outcome

D) The total number of data entries

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29. Why is calculating errors important in machine learning?

A) To format the dataset

B) To increase the size of the dataset

C) To understand how often the model makes mistakes

D) To delete incorrect data

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30. How is the best model for a dataset usually chosen?

A) Based on the smallest number of features

B) Based on the training time

C) Based on the lowest error

D) Based on the most colors in the graph

Keypoints - Accuracy and Error

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31. What is the main goal when evaluating a machine learning model?

A) Maximize dataset size

B) Minimize training time

C) Minimize error and maximize accuracy

D) Increase model complexity

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32. Why might focusing only on accuracy not always be the best approach?

A) It makes the model slower

B) Accuracy is not used in real-world tasks

C) Accuracy doesn’t consider the type of mistakes the model makes

D) Accuracy is always wrong

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33. In medical diagnosis, what type of mistake should a model especially avoid?

A) Predicting too fast

B) Incorrectly identifying a healthy person as sick

C) Using too many data points

D) Forgetting patient names

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34. Why can even the best models make mistakes?

A) Because real-world data is messy

B) Because models don’t use memory

C) Because testing is skipped

D) Because accuracy is ignored

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35. What should the choice of an evaluation metric depend on?

A) Size of the dataset

B) Number of features

C) Specific task and its requirements

D) The time of day the model is used
