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Congratulations! You passed!

Machine Learning Operations (MLOps) and pipelines

Grade received 92.86% To pass 80% or higher

Machine Learning Pipelines with Amazon SageMaker

Lecture Notes (Optional)

Practice

Machine Learning Pipelines

1. Machine Learning Pipelines are created as a way to iterate over the ML workflow quickly with less handoffs and reduced manual efforts. This is done by automating the tasks and orchestrating the sequence of task execution. What is the on-going set of tasks that are performed after a model is deployed with a pipeline ?

Graded App Item: SageMaker pipelines to train a BERT-Based text model

Model Monitoring Tasks

2h

Data Tasks

Course Resources

Model Building Tasks

Acknowledgements

Model Deployment Tasks

Week 3 quiz

Practice Quiz • 20 min

Review Learning Objectives

Submit your assignment

Receive grade

To Pass 80% or higher

Your grade 92.86%

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2. One keypoint in building an effective pipeline is establishing traceability of artifacts. Which of the following is/are reasons why traceability is important. (choose all that apply)

1 / 1 point

✔ Traceability ensures easy recovery of any resource or artifact.

✔ Correct

Correct! Every step in the pipeline is recorded and detailed logging information is available for traceability. Hence, recovery of resources and artifacts are easy.

✔ Traceability provides better visibility and support.

✔ Correct

Correct! With traceability you have a managed view into how the pipeline artifacts were created.

Traceability slows down model deployment.

Traceability allows you to manage end-to-end automation of the pipeline.

3. Data lakes are enterprise storage solutions which can host virtually any amount of data files. What are some reason(s) for the establishment of a governed data lake recommended in the ML pipeline? (Select all that apply)

0.75 / 1 point

✔ Decreases the wait time to begin model development

✔ Correct

Correct! Data Scientists don't have to wait for dataset collection, long approvals, security clearance etc. They can just go straight to feature engineering and model building.

Improves retraining workflows

✔ Ensures traceability for the data

✔ Correct

Correct! There is improved traceability when using a data lake as we can directly track the data used by practitioners for their data science projects.

Decreases model training time by 50%

You didn't select all the correct answers

4. True or False: In the ML pipeline, all inputs and artifacts that are produced as part of an automated task have versions associated with them.

1 / 1 point

True

False

✔ Correct

Correct! Versioning inputs and outputs of each step in the workflow ensures traceability. Some types of versioning include data, code, and runtime versioning.

5. In the data tasks, several validation tasks can be incorporated into the machine learning pipeline and automated to improve quality. What are some of these validation tasks? (Choose all that apply)

0.75 / 1 point

Data quality checks

✔ Data schema

✔ Correct

Correct! This automated check ensures that the data structure and schema that's coming from the input is what's expected.

Hyper-parameter Tuning

✔ Detection of statistical data bias

✔ Correct

Correct! Automated checks to detect statistical data bias can be included as a step within the pipeline.

You didn't select all the correct answers

6. The Model Registry is a central store to manage model metadata and model artifacts. What other information can be retrieved from the model registry? (choose all that apply)

1 / 1 point

Includes a collection of built-in CI/CD templates for popular pipelines

✔ Which model versions may or may not be deployed in production.

✔ Correct

Correct! It provides information about the model version that was deployed - as well as the environment the model was deployed into.

Provides traceability and auditability

✔ Correct

Correct! In the model registry you can easily view information about model lineage and traceability.

Steps to build, train, and deploy a models in Amazon SageMaker Pipelines

7. Someone inadvertently deletes a live endpoint without knowing exactly how it was built. What functionality in the ML pipeline makes it possible to retrieve the deployed model?

1 / 1 point