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Knowledge Test Day 5

MLOPS + GIT, DVC, FEATURE STORE

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Q1. In the MLOps lifecycle, the steps code, data, model should be versioned to ensure ___ and reproducibility across teams.

A. collaboration

B. automation

C. simplicity

D. visualization

Explanation: Reproducibility and collaboration are essential in MLOps and are supported through proper versioning.

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Q2. Git is commonly used in ML workflows to track changes in ____ and experiment logic.

A. model outputs

B. training datasets

C. code and scripts

D. hardware dependencies

Explanation: Git excels at version-controlling code, which forms the basis of ML experiments.

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Q3. Git is not ideal for large binary files like datasets or models because it stores changes by ___.

A. overwriting

B. chunking

C. appending

D. deltas

Explanation: Git stores changes as deltas (differences), which is inefficient for large binaries—hence tools like DVC are needed.

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Q4. DVC helps solve the limitations of Git in ML by versioning large data and model files using ___ storage.

A. container

B. remote

C. cloud

D. local

Explanation: DVC links files in Git to versions stored in remote storage (like S3, GCS), enabling scalable versioning.

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Q5. The command dvc add data.csv creates a .dvc file which tracks the ___ of the data file.

A. size

B. content hash

C. name

D. metadata

Explanation: DVC uses a content hash to track changes in large files.

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Q6. When using DVC, dvc push is used to upload data or models to ____ storage so they can be shared across machines.

A. GitHub

B. Local

C. Remote

D. Cache

Explanation: DVC separates code (via Git) and data (via remote storage), making it easy to share across environments.

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Q7. Feast is used in MLOps to store and serve ___ to models in both training and production environments.

A. predictions

B. hyperparameters

C. raw data

D. features

Explanation: Feast (Feature Store) centralizes feature definitions and makes them reusable across ML stages.

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Q8. A key advantage of using a feature store like Feast is that it ensures ___ between training and serving features.

A. duplication

B. consistency

C. compression

D. normalization

Explanation: Feature stores eliminate training-serving skew by maintaining consistent transformations.

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Q9. In Feast, features are often grouped into entities (e.g., user_id, item_id) to support ___ feature retrieval.

A. static

B. versioned

C. point-in-time

D. streaming

Explanation: Point-in-time retrieval ensures the model sees only features that were available at prediction time.

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Q10. A complete MLOps system integrates Git for code, DVC for data/model versioning, and Feast for features, enabling automated and reproducible ___ pipelines.

A. deployment

B. CI/CD

C. ETL

D. ML

Explanation: MLOps pipelines benefit from integrating versioning and data/feature consistency for scalable ML workflows.