

A GitOps approach to MLOps

(or model registry with Git)

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Model Registry with Git

1. Store and version ML models
2. Model stage: staging to production
3. Model annotations
4. What cannot be implemented with Git

About me



Before



Ex-Data Scientist at Microsoft

Now



Creator of Data Version Control



Co-founder, CEO at Iterative.ai
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I. Model registry

What is Model Registry

Centralized model store to collaboratively manage the full lifecycle of ML models.

1. Model lineage & versioning
2. Stage transitions: from staging to production
3. Annotations

Challenges: model & code lineage

Lineage: line up source code and ML model



Challenges: app & model difference

Unify application deployment & ML model deployments

A decorative geometric pattern consisting of overlapping rounded squares and lines, with a small orange line segment and a small teal line segment.

Challenges: summary

Discrepancy & integrations are the problem.

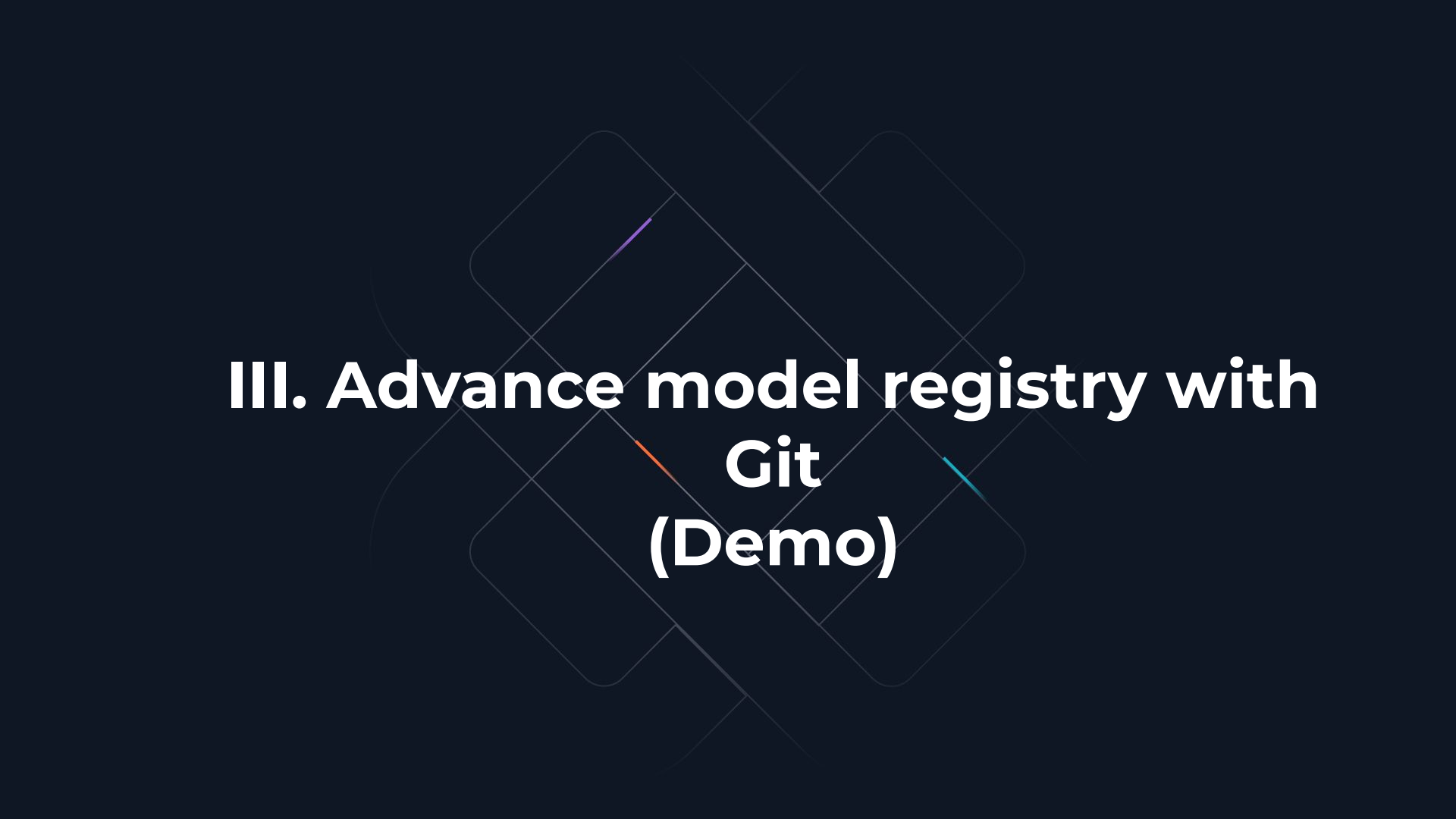
An abstract geometric pattern consisting of several overlapping rounded squares or diamonds. The pattern is centered on the slide. A thin purple line runs diagonally from the top-left towards the center. A thin orange line runs diagonally from the center towards the bottom-left. A thin teal line runs diagonally from the center towards the bottom-right. The background is a solid dark blue.

Solution: Git as the source of truth

Infrastructure as Code - IaC

A decorative background graphic consisting of a grid of rounded squares. The grid is composed of four main squares arranged in a 2x2 pattern. Each of these squares is further divided into four smaller squares, creating a total of 16 smaller squares. The lines forming the grid are thin and light gray. In the center of the grid, there are three small, colored diagonal lines: a purple line in the top-left quadrant, an orange line in the bottom-left quadrant, and a teal line in the bottom-right quadrant.

II. Git as model registry (Demo)



III. Advance model registry with Git (Demo)



III. Limitations of Git

Model visibility

Models are visible only in a repo. No cross-repository.

Git good for inside repository model registry, not cross-repository.

Summary

1. **Git can be used as model registry.**
2. **Git becomes a source of truth.**
3. **No need in external services.**
4. **Does not work cross-repository.**



Thank you!

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