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Course Info

Week 3

Deploying Machine Learning Models in Production

Week 3

Discuss the topic here.

23 threads · Last post 2 days ago

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Week 3: Model Management and Delivery

Learn how to implement ML processes, pipelines, and workflow automation that adhere to modern MLOps practices, which will allow you to manage and audit your projects during their entire lifecycle

Learning Objectives

- Coordinate model management, tracking and delivery by managing model versions, lineage, and registries
- Implement ML processes, pipelines, and workflow automation that adhere to modern MLOps practices
- Carry out continuous integration and delivery for model deployment, and maintain and monitor a continuously operating production system

ML Experiments Management and Workflow Automation

▶ **Video:** Experiment Tracking 8 min   [Resume]

▶ **Video:** Tools for Experiment Tracking 7 min

▭ **Reading:** Experiment Tracking 10 min

▶ **Video:** Introduction to MLOps 11 min

▤ **Practice Quiz:** ML Experiments Management and Workflow Automation 4 questions

MLOps Methodology

▶ **Video:** MLOps Level 0 5 min

▶ **Video:** MLOps Levels 1&2 13 min

▭ **Reading:** MLOps Resources 10 min

▭ **Reading:** Ungraded Lab: Intro to Kubeflow Pipelines 2h

▶ **Video:** Developing Components for an Orchestrated Workflow 13 min

▭ **Reading:** Architecture for MLOps using TFX, Kubeflow Pipelines, and Cloud Build 10 min

▤ **Practice Quiz:** MLOps Methodology 4 questions

▭ **Reading:** Ungraded Lab: Developing TFX Custom Components 45 min

▣ **Graded External Tool:** Vertex Pipelines 1h 30m   Due Jan 10, 2:59 AM EST

Model Management and Deployment Infrastructure

▶ **Video:** Managing Model Versions 7 min

▭ **Reading:** Ungraded Lab - Model Versioning with TF Serving 40 min

▭ **Reading:** ML Model Management 10 min

▶ **Video:** Continuous Delivery 7 min

▭ **Reading:** Ungraded Lab - CI/CD pipelines with GitHub Actions 1h

▭ **Reading:** Continuous Delivery 10 min

▶ **Video:** Progressive Delivery 7 min

Reading: Progressive Delivery 10 min

Practice Quiz: Model Management and Deployment Infrastructure 4 questions

Graded External Tool: Implementing Canary Releases of TensorFlow model deployments with Kubernetes and Istio 2h Due Jan 10, 2:59 AM EST

Lecture Notes (Optional)

Ungraded External Tool: Lecture Notes W3 5 min