Introduction to AIOps, Project AI4CI and Operate First

Oindrilla Chatterjee Surya Prakash Pathak

Red Hat

Agenda

- Introduction to -
  - Operate First
  - AIOps
  - Project AI4CI

- Hands on Workshop

Operate First

Operate First is a concept to incorporate operational experience into software development, by extending development to include operating, testing, and proving code in a production environment.

Ideally Operate First becomes a partner to Upstream First as a basic tenet of our workflow.”

What is AIOps?

AIOps

AI + DevOps

Artificial Intelligence
for IT Operations

+

Dev & Ops : **DevOps**

Audience Interaction

Raise your hands if you are familiar with Data Scientist or have worked with AI/ML before

Audience Interaction

Raise your hands if you are familiar with Jupyter Notebooks

AI4CI supports CI/CD and software dev processes

What is AI4CI?

Collection of **Open Source AIOps tools** including scripts, notebooks, pipelines, dashboards and data sources.

Data collection

Collection of open operations data from Kubernetes testing platforms eg: Testgrid, Github, and Prow.

Metrics

Collects metrics and **KPIs** and visualization dashboards.

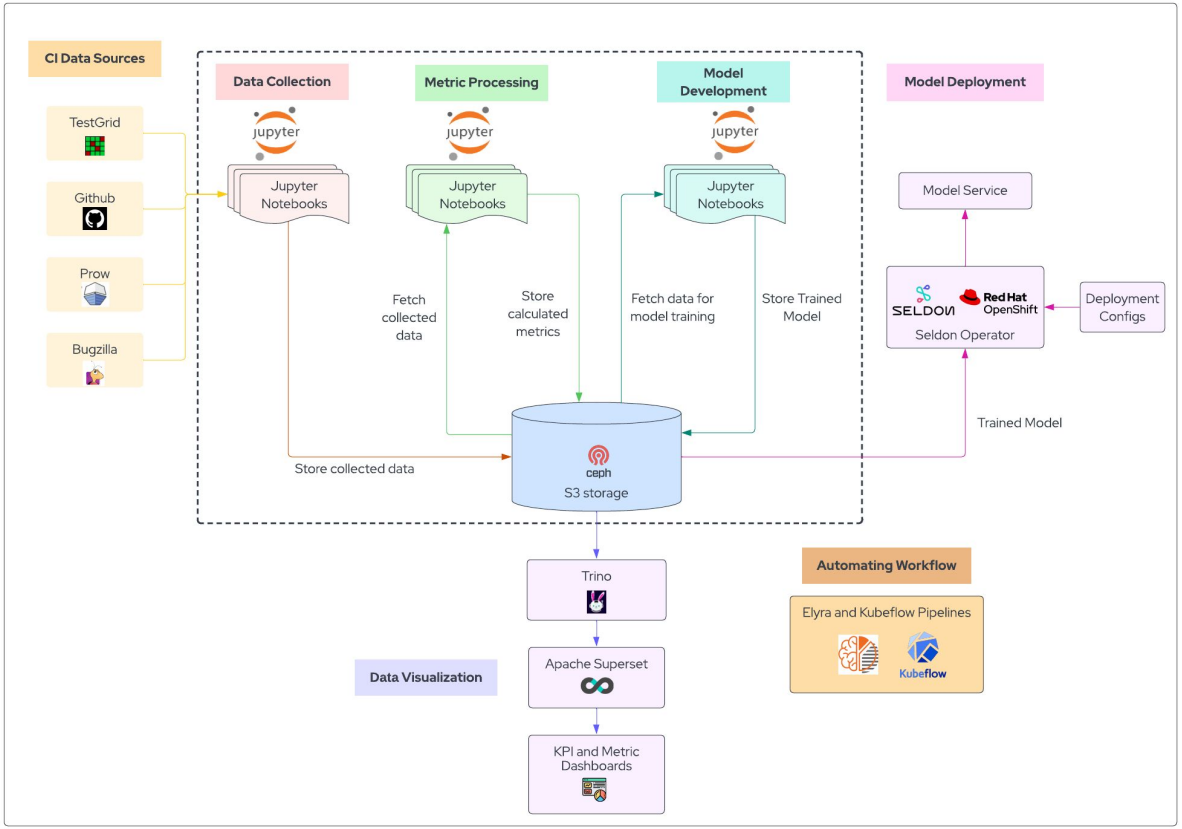
ML Services

ML services which can support CI/CD processes.

Open source AIOps template

Resource for open source AIOps communities (notebooks, scripts, automated ML pipelines, dashboards, services tools)

AI4CI - Architecture Diagram



Next Steps

Workshop Materials:

Follow this link:

https://aicoe-aiops.github.io/ocp-ci-analysis/docs/workshop/prerequisites.html

Audience Interaction

Raise your hands if you are familiar with Python

Audience Interaction

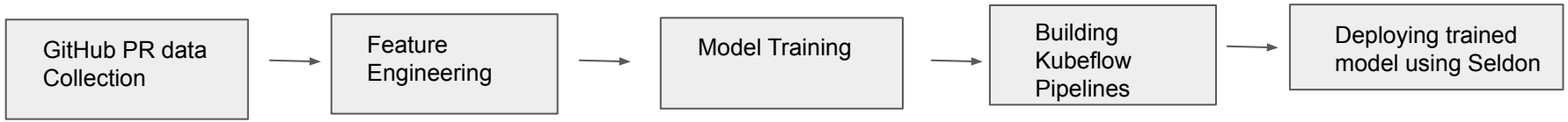
Raise your hands if you are familiar with Git

Audience Interaction

Raise your hands if you are familiar with Command Line Terminal

Today's Workshop

GitHub Time to Merge Model



Current workflow: Github time to merge prediction service

Collect data → **Features** → **Model Building** → **Creating Service** → **Bot integration**

Collect **data** from code repositories

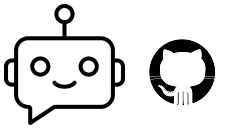
Features like **size of the PR, types of files in the PR description of the PR**

Train repository or org specific model

Kubeflow based Model Pipelines

Creating **Model service** endpoint

Provide endpoint that can be accessed



Integrate service with repository using a **bot** to offer live feedback or a standalone site

Issues, PRs → **Discover project specific behavior** → **Model returns merge time estimate** → **Model API Endpoint** → **Provide estimates**

Next Steps

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