CLOUD NATIVE & KUBERNETES

AI DAY

NORTH AMERICA

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Advancing Cloud Native AI Innovation Through Open Collaboration

Yuan Tang

Principal Software Engineer

Open Source Leadership

Red Hat

Kubeflow

KServe

WG Serving

argo

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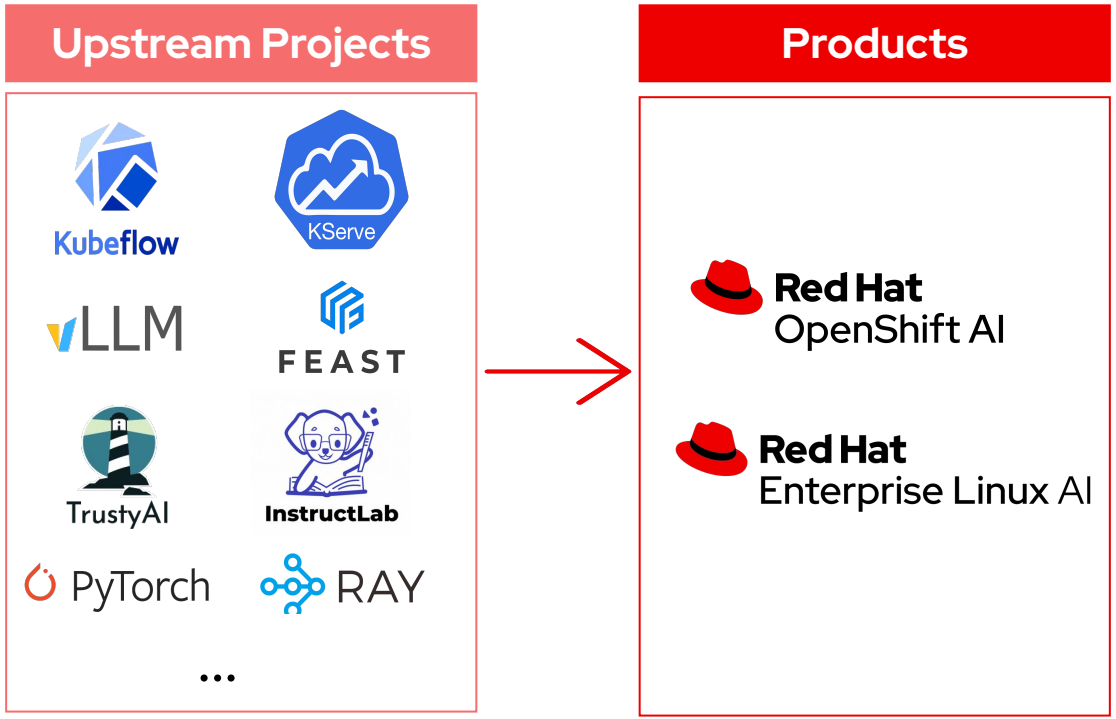
Our Commitment to Open Source

Red Hat AI = 100% Open Source



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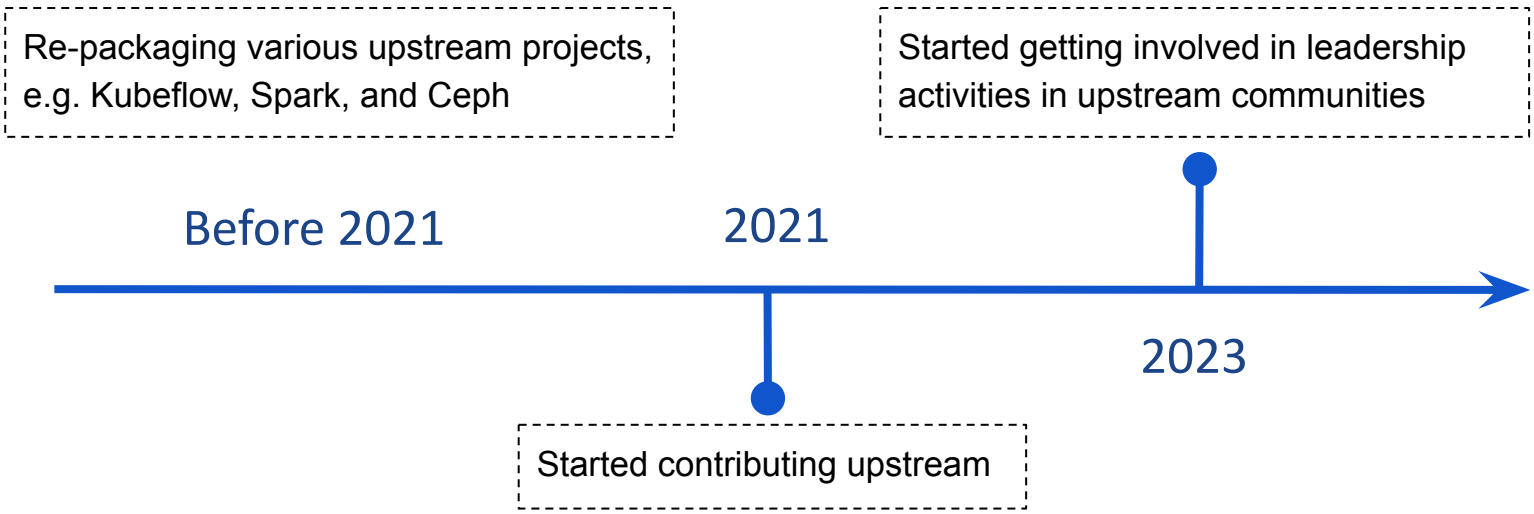
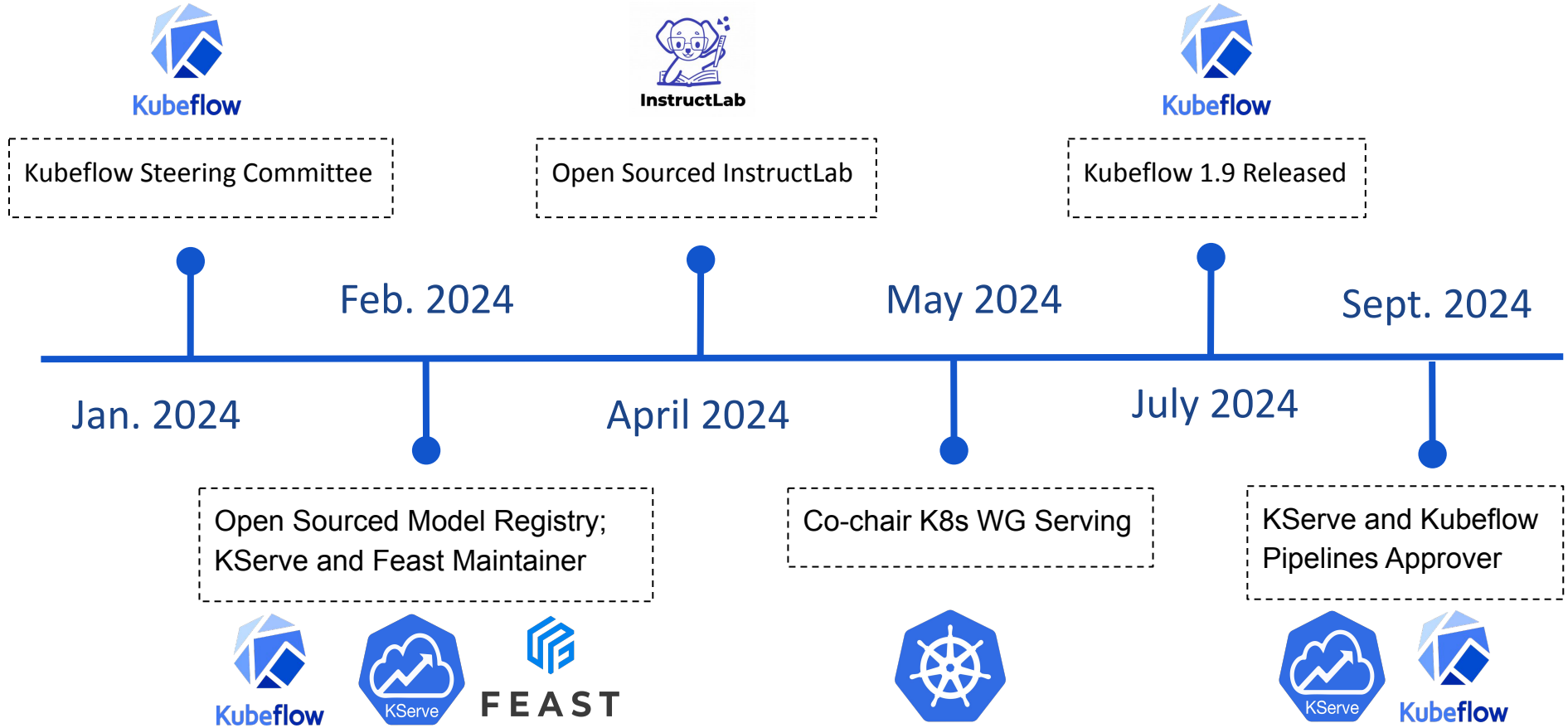
Red Hat Open Source AI Journey

Red Hat Open Source AI Journey



Red Hat Open Source AI Journey



Open Source Contributions

Workflow

Kubeflow

argo

Elyra

Data

FEAST

InstructLab

Training & Tuning

Kubeflow

RAY

Kueue

InstructLab

CodeFlare

Evaluation

TrustyAI

InstructLab

Serving

KServe

Kubeflow

TrustyAI

kubernetes

InstructLab

vLLM

K n

Dashboard & IDE

Kubeflow

Elyra

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Contribution Highlights

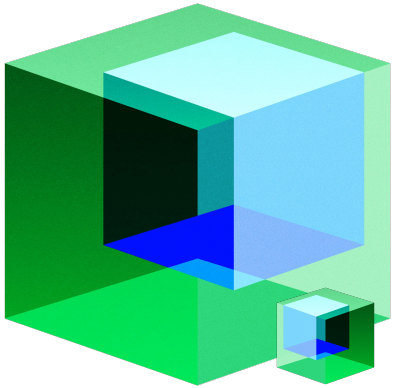
Contribution Highlights: InstructLab

InstructLab is **an open source project** for enhancing large language models **(LLMs)** used in generative AI applications.

Accessible ◆ Cost-Efficient ◆ Open Source

Contribution Highlights: Granite Models

New Granite 3.0 Language Models under Apache 2.0



New dense architecture

State-of-the-art training and data recipes

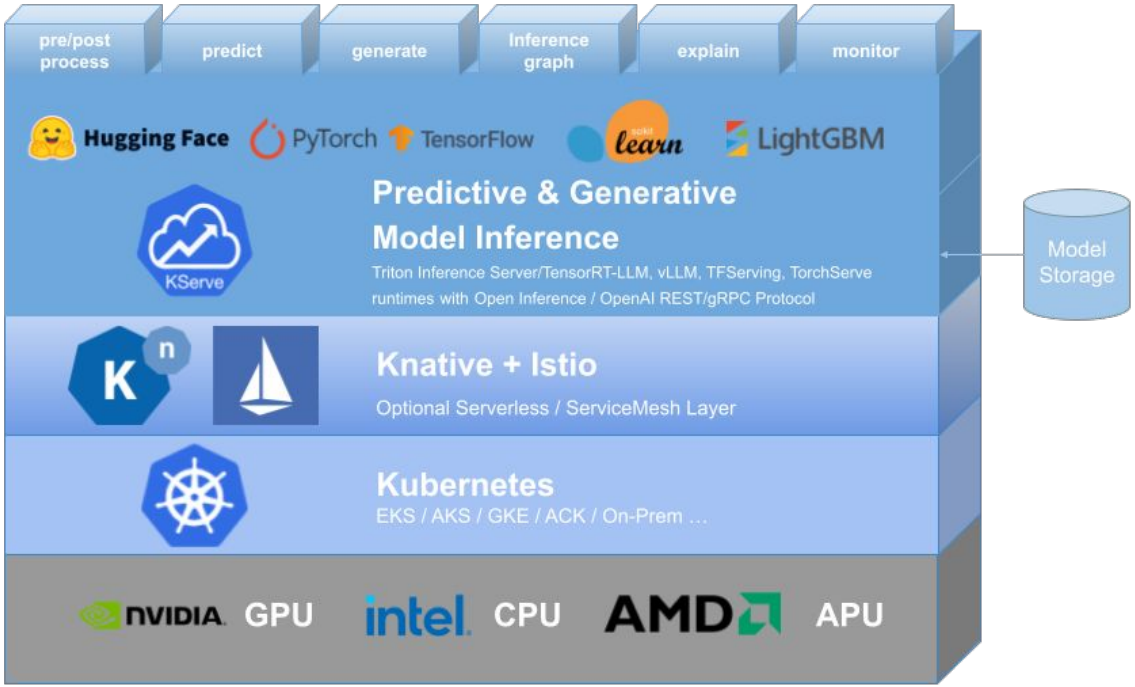
12T+ tokens training data

Designed for enterprise tasks:

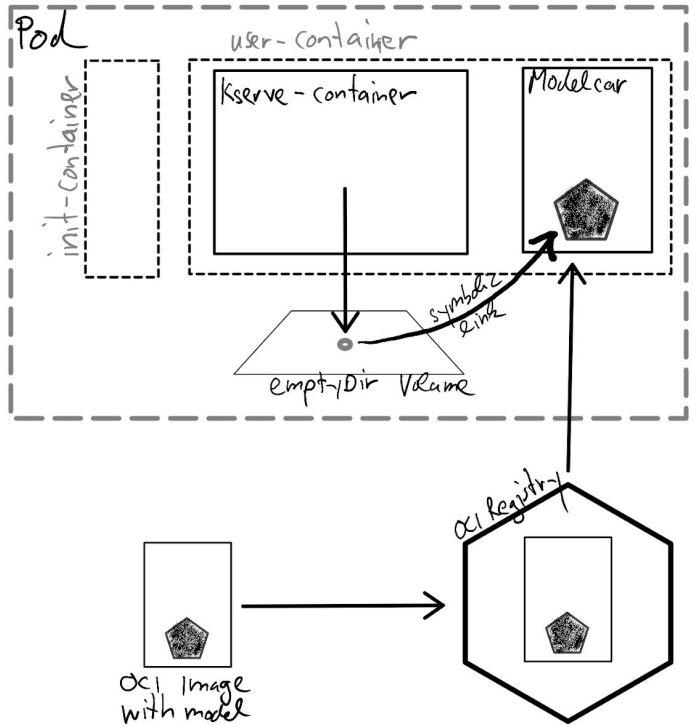
→ Language (RAG, summarization, entity extraction, classification, etc.)
→ Code (generation, translation, bug fixing)
→ Agents (tool use, advanced reasoning)
→ Multilingual support (en, de, es, fr, ja pt, ar, cs, it, ko, nl, zh)

Contribution Highlights: Faster Model Serving

KServe



KServe ModelCar



Contribution Highlights: Faster Model Serving

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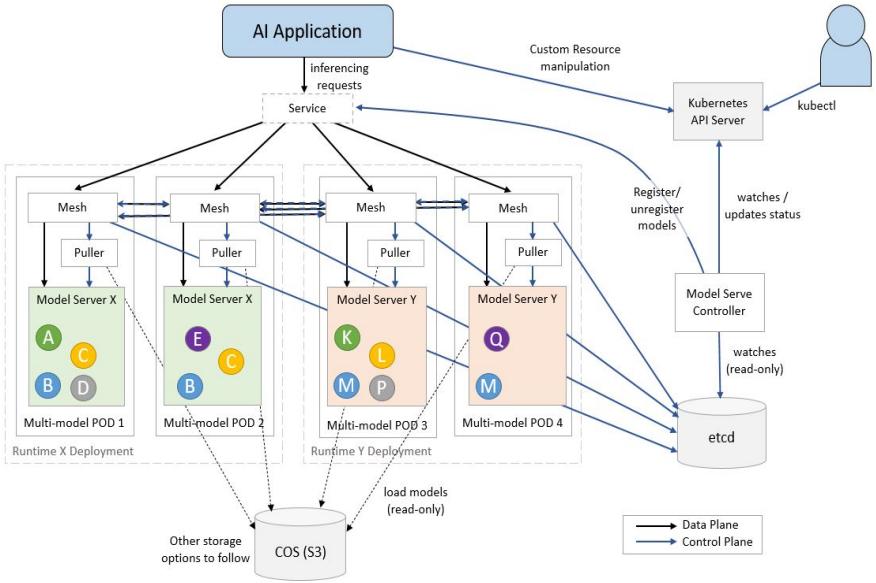
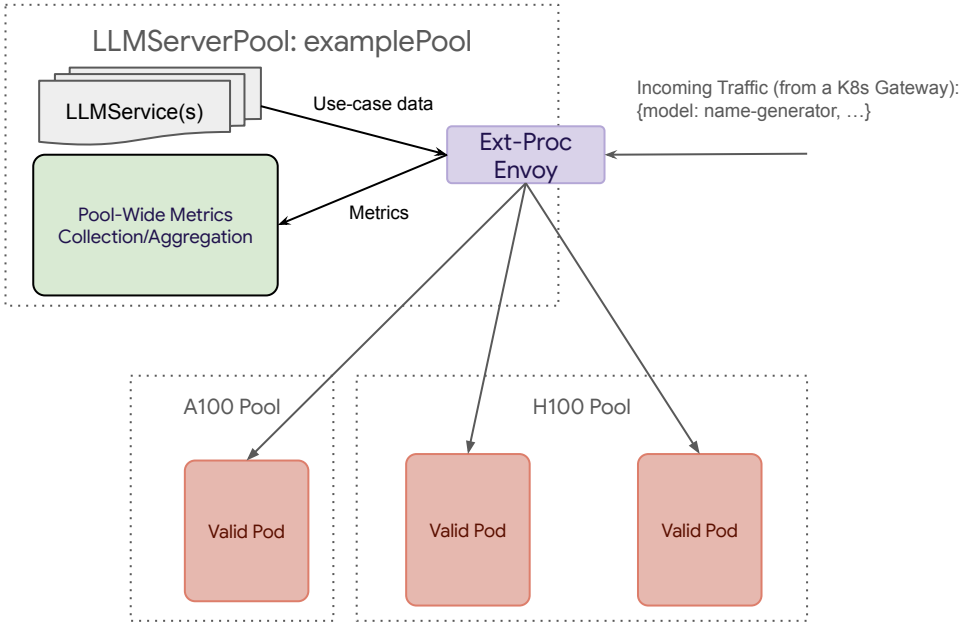
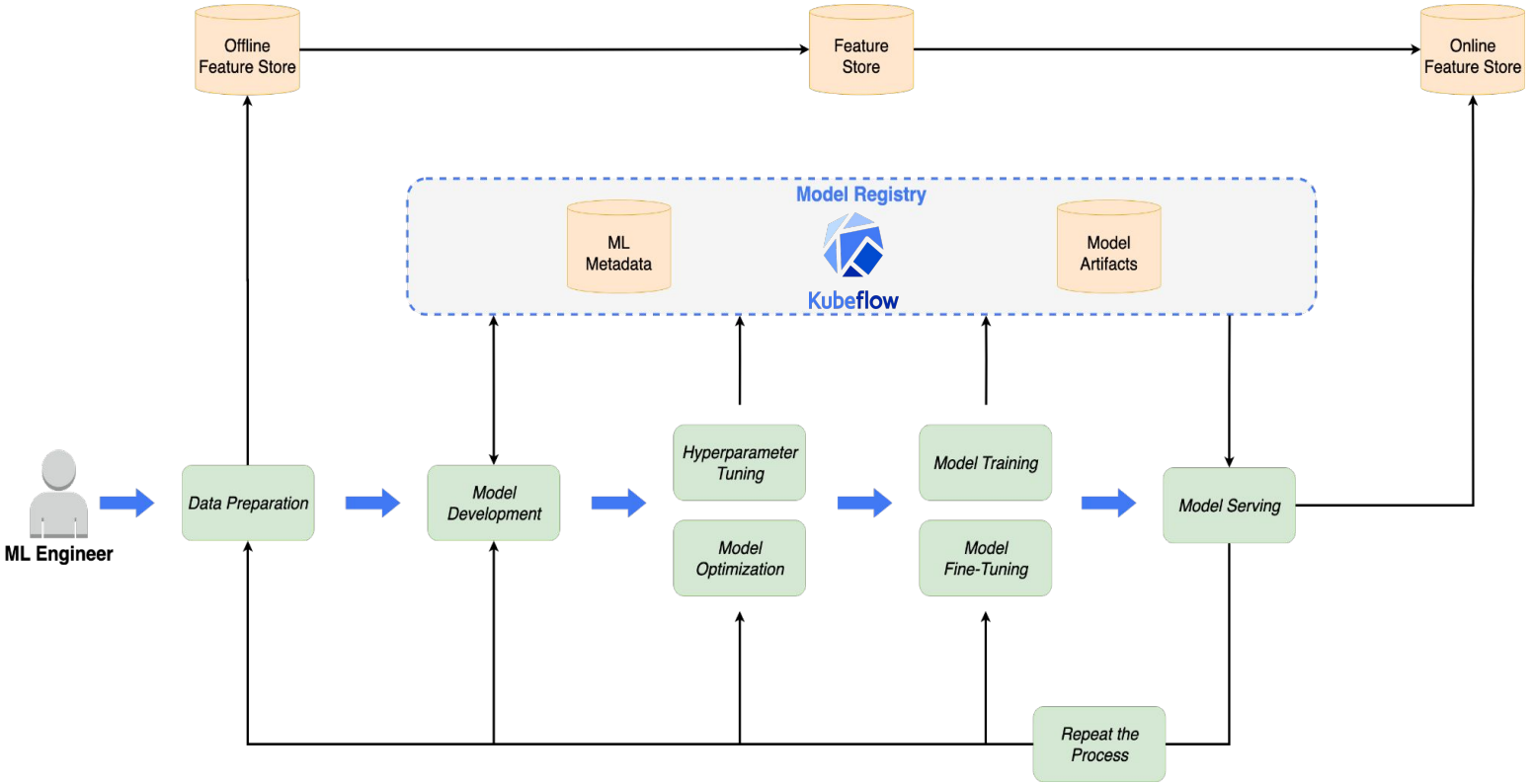
KServe ModelMesh



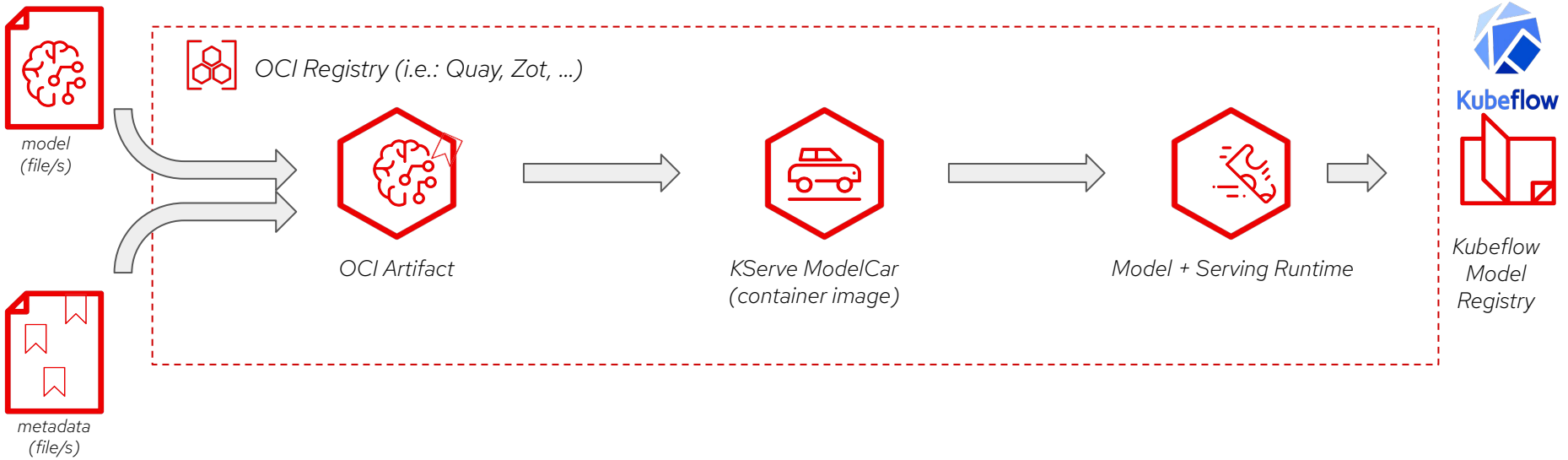
LLM Instance Gateway



Contribution Highlights: Better Model Management



Contribution Highlights: Better Model Management



Contribution Highlights: Safer Model Usage

TrustyAI

Core Features

TrustyAI REST Service

Compute bias and drift metrics

LLM Evaluation

Benchmark LLM capabilities over a variety of tasks

LLM Guardrails

Moderate interaction pathways between users and LLMs

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Our Collaborative Approach

Our Collaborative Approach

- **Mentoring** next generation of contributors
  - 8 successful Kubeflow GSoC projects.
- **Collaborating** with project maintainers, contributors, and corporate partners
  - KServe
    - 15 maintainers from 6 companies and 250+ contributors
    - Engaging the KServe Community, The Impact of Integrating a Solutions with Standardized CNCF Projects | **Thursday** 5:25pm - 6:00pm
  - K8s WG Serving
    - 250+ community members
    - WG Serving: Accelerating AI/ML Inference Workloads on Kubernetes | **Friday** 11:55am - 12:30pm
- **Listening** to feedback from end users and adopters
  - Community surveys and interactions with project end-users
  - Kubeflow and KServe end users will be featured at KubeCon keynotes

Join Our Collaboration!

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