WP5 AI & Safe Autonomous Decision

WP5T54-01: MLBuffet

WP5T54-02: MLBuffet Training module

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Component description

- **Objective of the component:**

MLBuffet is an open source ML tool for Edge ML processes. It allows to manage the lifecycle of a ML model, from Model training, deployment, storage, and inference on the Edge or the Cloud.

- **Fractal Features associated:**

1. FRACTALITY -> ORCHESTRATION --> MODEL
2. ADAPTABILITY --> DATA ORCHESTRATION --> PROCESSES --> MODEL FEEDING
3. ADAPTABILITY --> AI --> SW --> TRAINING

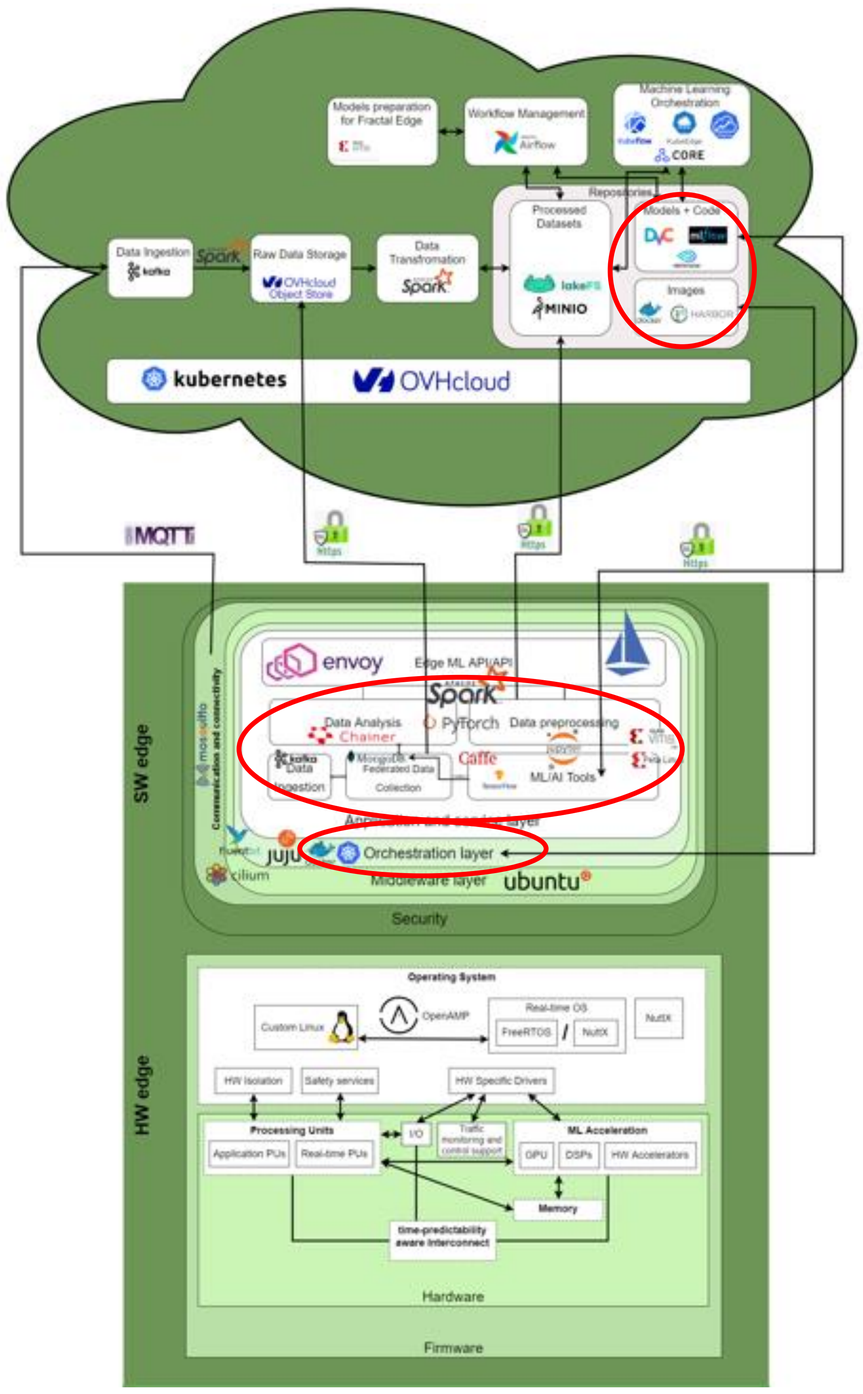
- **Inputs/Outputs:**

- JSON formatted inputs for models or images / Model inference as JSON format
- Training scripts / Trained models
- Model management: Upload/Download models to/from the server

- **Integration:**

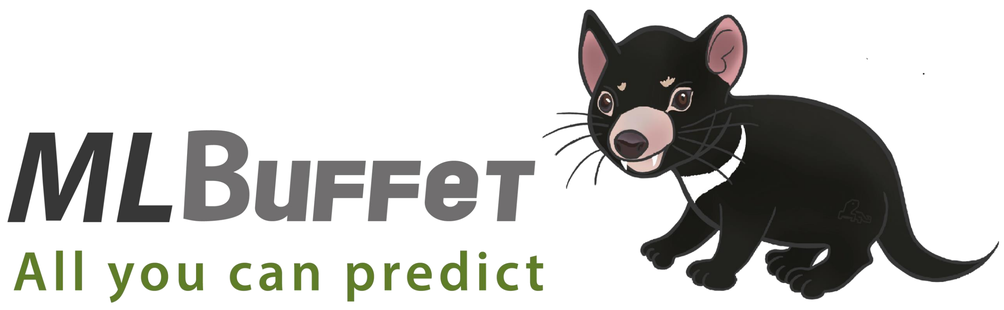
- Install on K8S clusters
- Expose the services you want to use. To integrate with other tools, just perform HTTP requests on the Inferrer module.

Component location



Images/Diagrams to describe the component and its processes

Module	Description
Deploy	Contains the necessary files to install the project, Docker Swarm or Kubernetes.
Inferrer	The main REST API. Users or clients may communicate with this API to access the app resources.
Modelhost	Workers for model deployments and inference. There might be multiple instances of this module, each being aware of all the models stored.
Metrics	Gathers and manages performance metrics from host system and services.
Storage	Performs version controlling.



Get started

- Installation guide: Build the Docker images with the script./mlbuffet/deploy/build.sh
- Change the image names in the YAML files at /mlbuffet/deploy/kubernetes/autodeploy
- Deploy the K8S resources using the script at/mlbuffet/deploy/kubernetes/deploy.sh
- Test the API curl http://<INFERRER-IP>:8000/

Ready to go!

- Full README available at https://github.com/zylklab/mlbuffet

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