Diabetes prediction of a patient
Group 06

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Problem description

The aim of the project is the exploration, training and serving of a machine learning model for **Time Series Data forecasting** by leveraging Kubeflow's main components

The problem to be solved is a **time-series regression problem** represented by the glucose levels in future instants of times

$$\widehat{G}(t + h\Delta(t)) = f\left(G(t), G(t - \Delta(t)), \ldots, G(t - k\Delta(t)), I(t), I(t - \Delta(t)), \ldots, I(t - k\Delta(t)), C(t), C(t - \Delta(t)), \ldots, C(t - k\Delta(t))\right)$$

The main goals are:

- Design a Kubeflow **Pipeline**
- Design and deploy a **Web App**
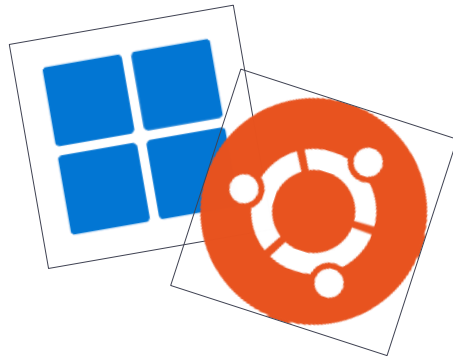
Software
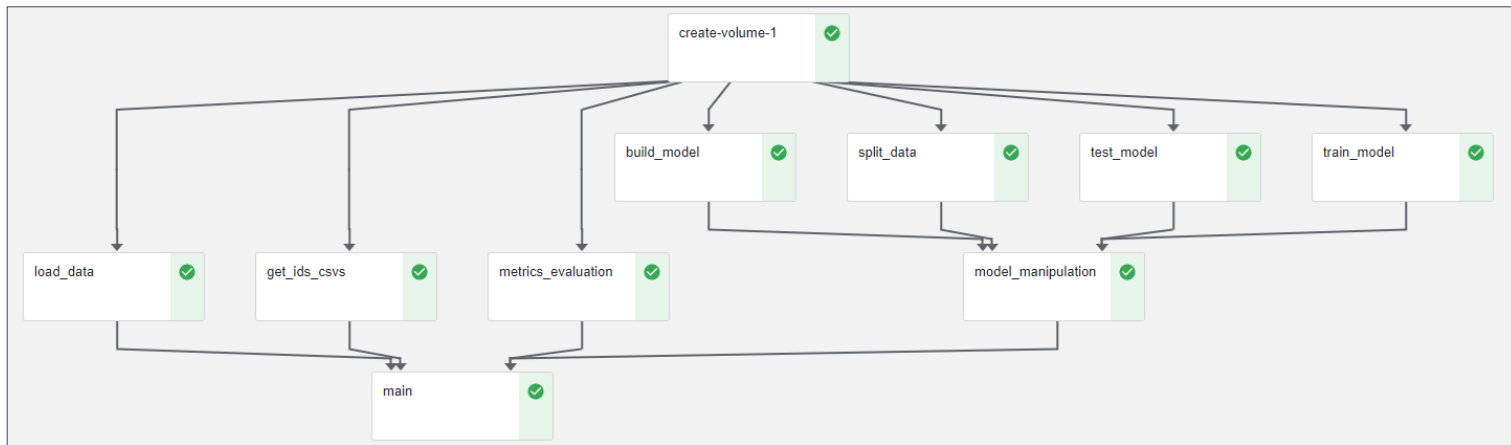
Kubeflow

Arrikto

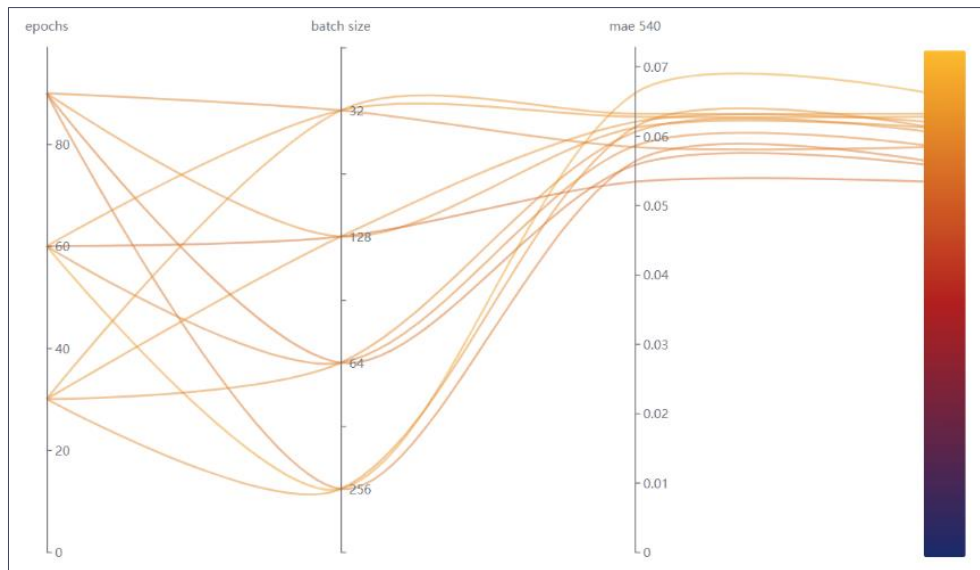Visual Studio Code

Streamlit

Docker

Kubernetes

Pipeline

Functional components that make up the Machine Learning workflow

Pipeline
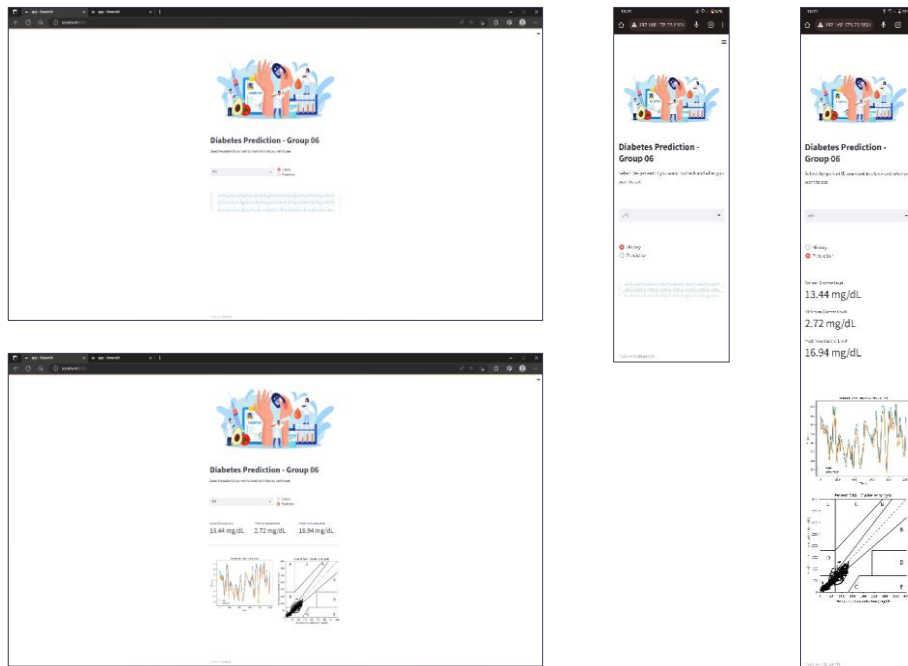
Automated Hyperparameters Tuning thanks to **Katib**

Web App

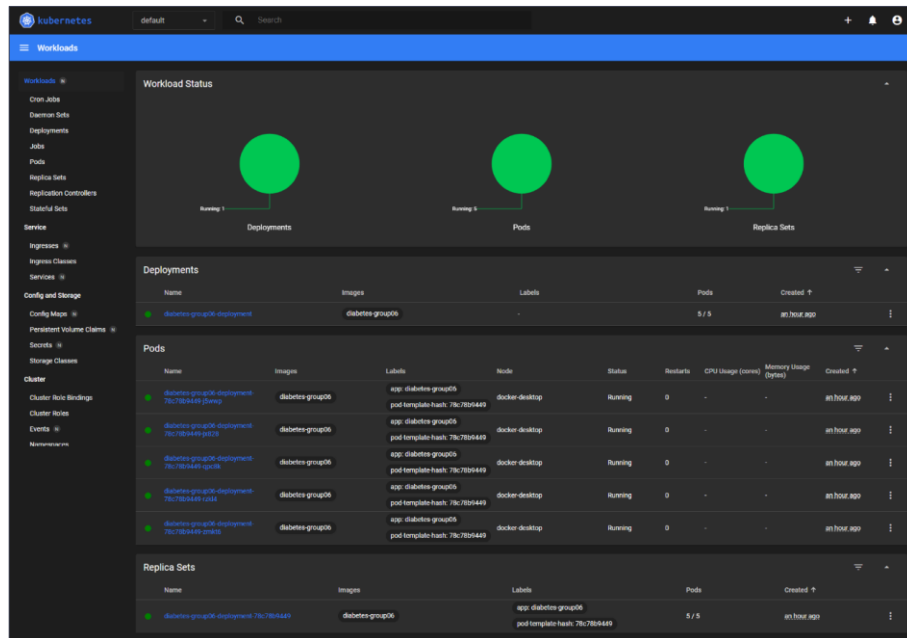Creation and Testing of the Web App thanks to **Streamlit**

Web App

Containerization thanks to **Docker**

Deployment thanks to **Kubernetes**

Security

NGINX to protect Kubernetes Apps (WAF and DoS)
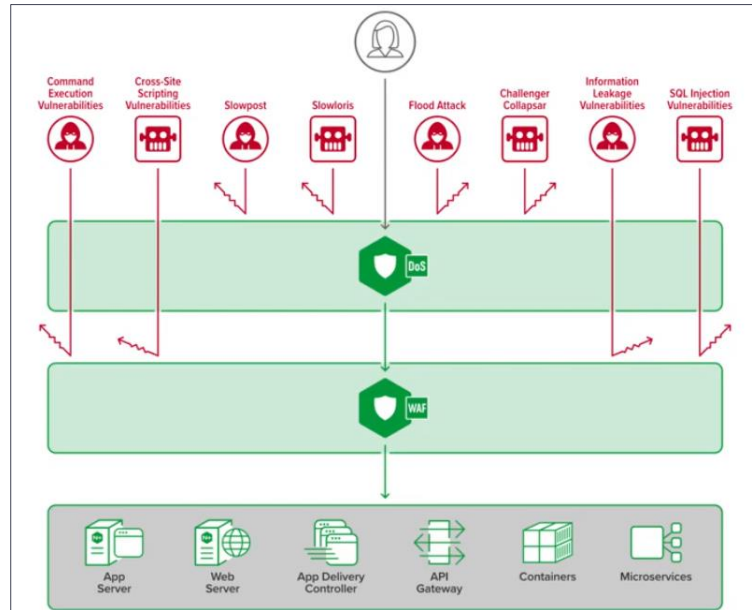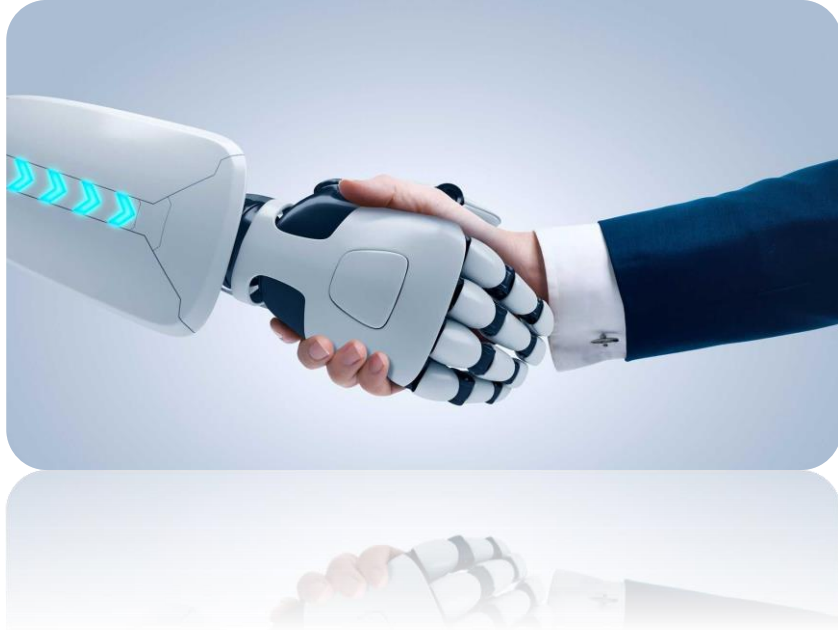
Thanks for the attention

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