OpenVINO Overview

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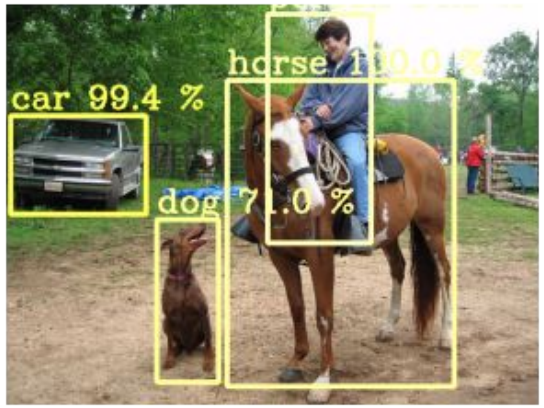
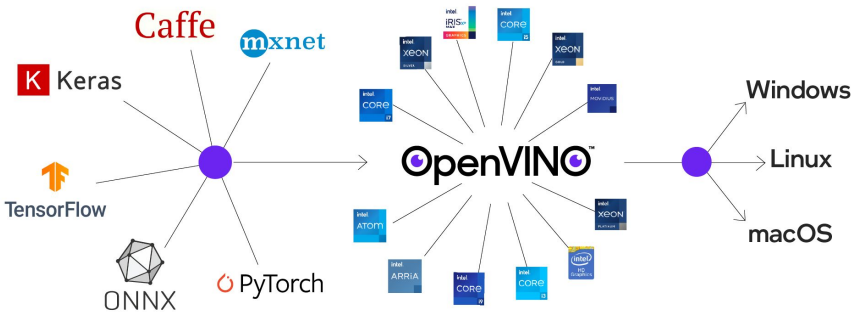
What is OpenVINO?

OpenVINO

Open Visual Inferencing and Neural Network Optimization



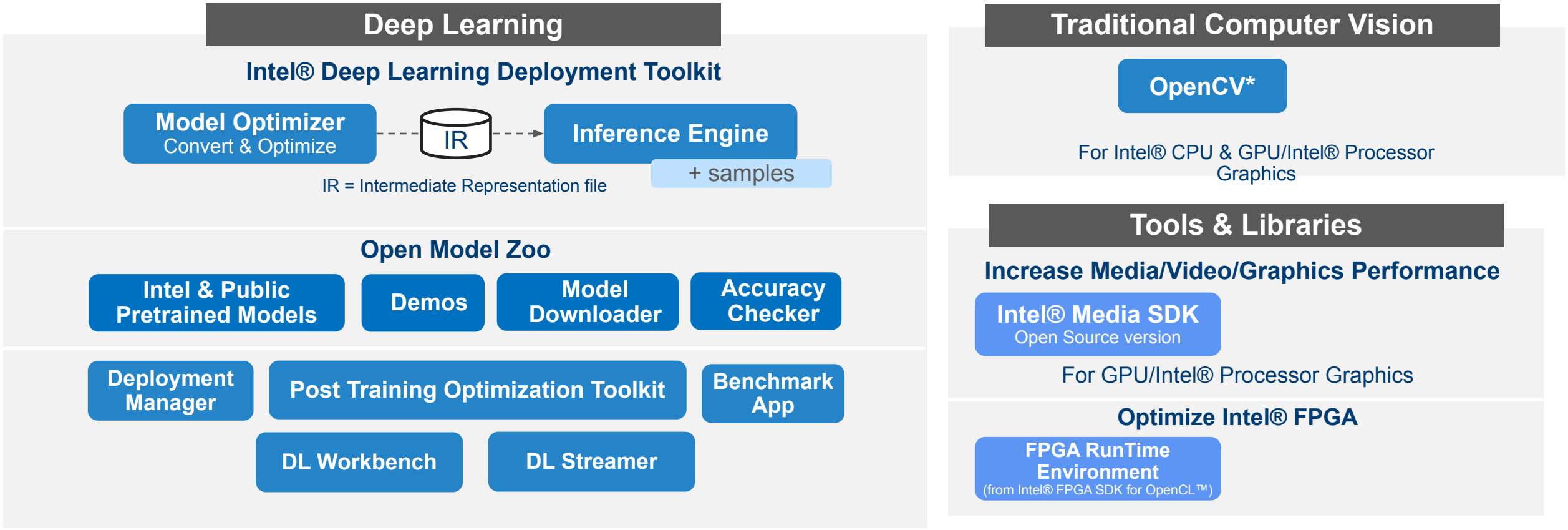
Develop and deploy visual-oriented solutions



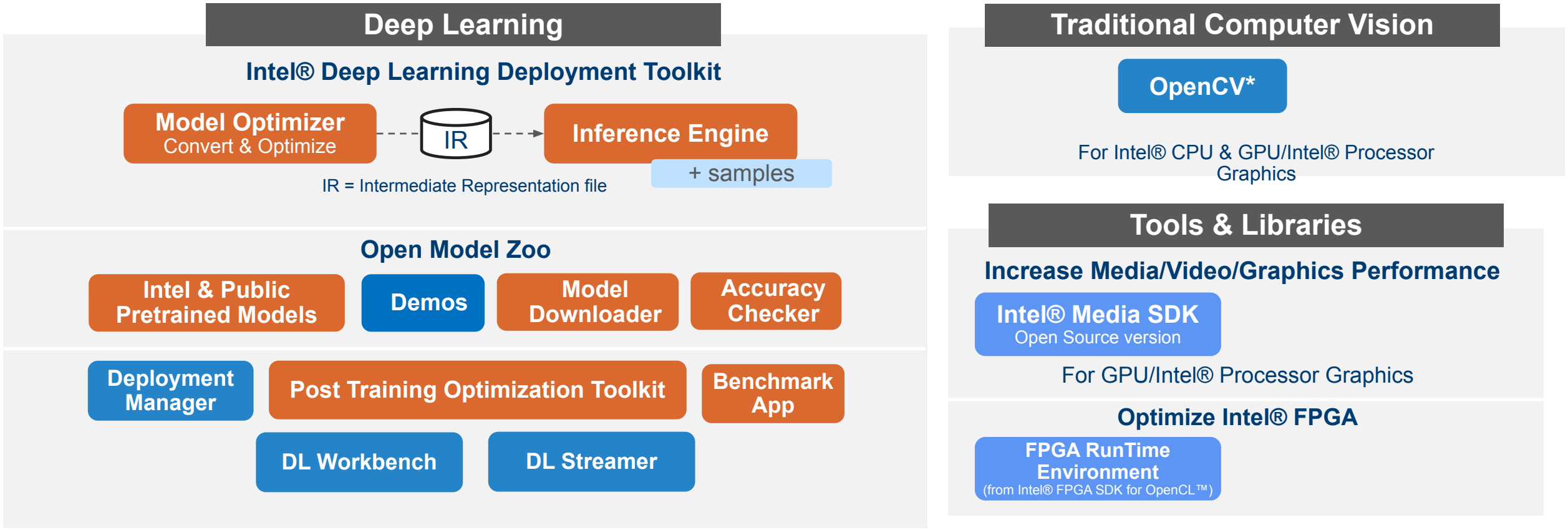
Comprehensive toolkit

Experiment on multiple devices

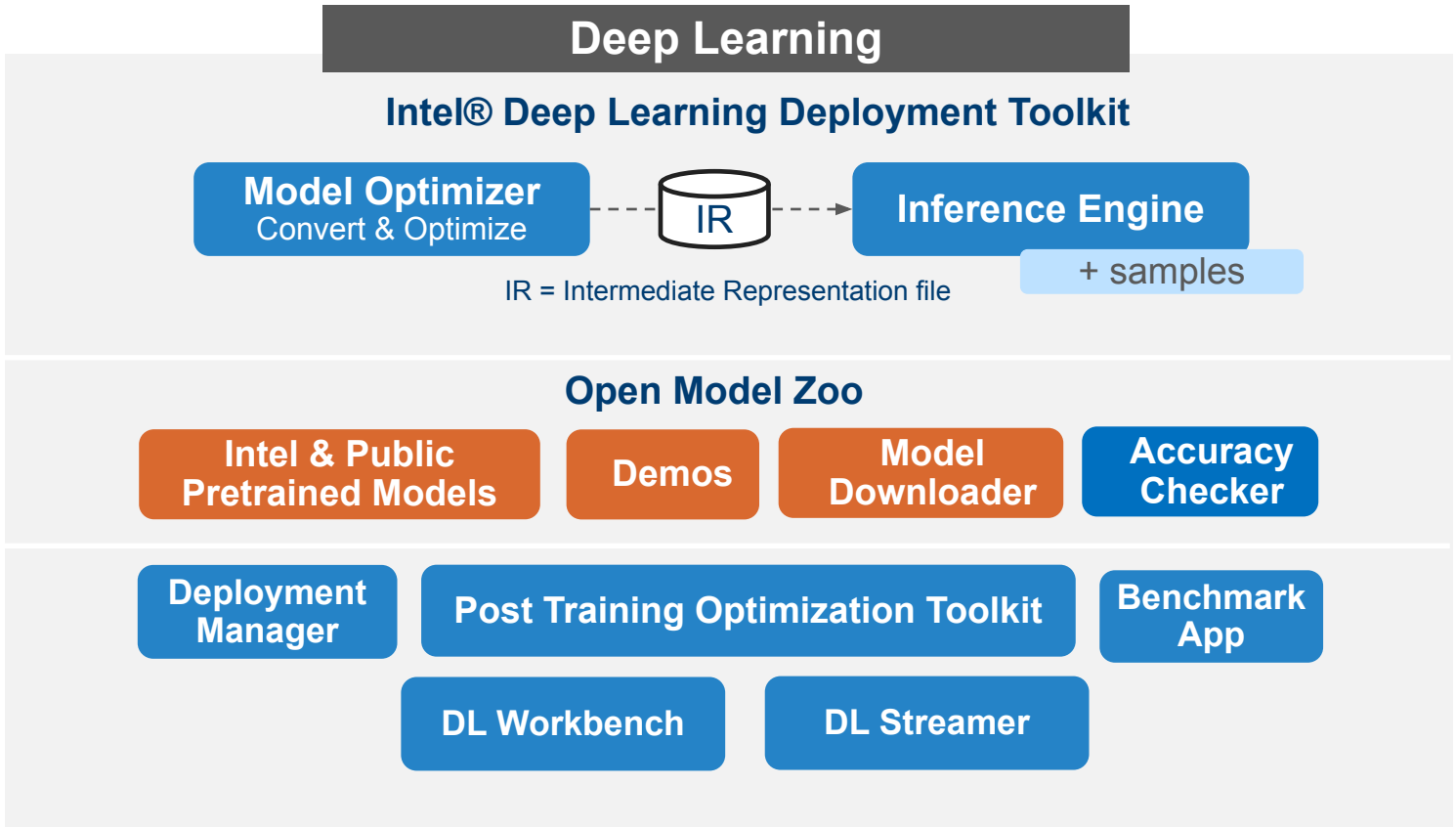
What is OpenVINO?



What is OpenVINO?



Open Model Zoo



220+

Pre-trained models :

- mobilenet-ssd (Caffe)
- efficientdet-d0-tf (TensorFlow)
- resnet-50-pytorch (PyTorch)

Trained Models - OpenVINO™ Toolkit (openvinotoolkit.org)

10+

Model categories to choose from :

- Object Detection
- Object Recognition
- Machine Translation

40+

Demos :

- Object Detection
- Face Recognition
- Social Distance

Open Model Zoo Demos - OpenVINO™ Toolkit (openvinotoolkit.org)

Model Optimizer

Deep Learning

Intel® Deep Learning Deployment Toolkit

Model Optimizer
Convert & Optimize

IR

Inference Engine

+ samples

IR = Intermediate Representation file

Open Model Zoo

Intel & Public Pretrained Models

Demos

Model Downloader

Accuracy Checker

Deployment Manager

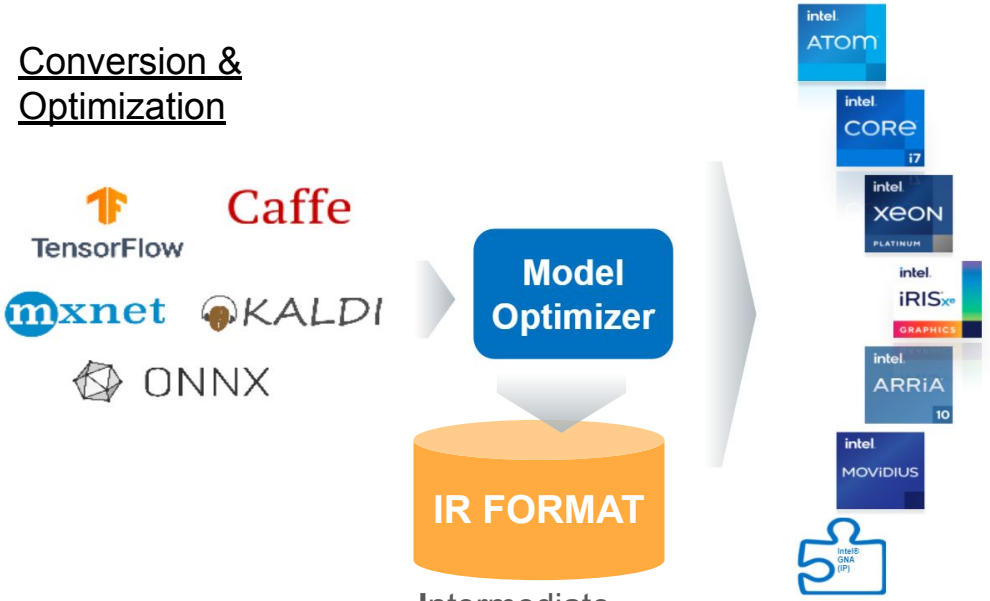
Post Training Optimization Toolkit

Benchmark App

DL Workbench

DL Streamer

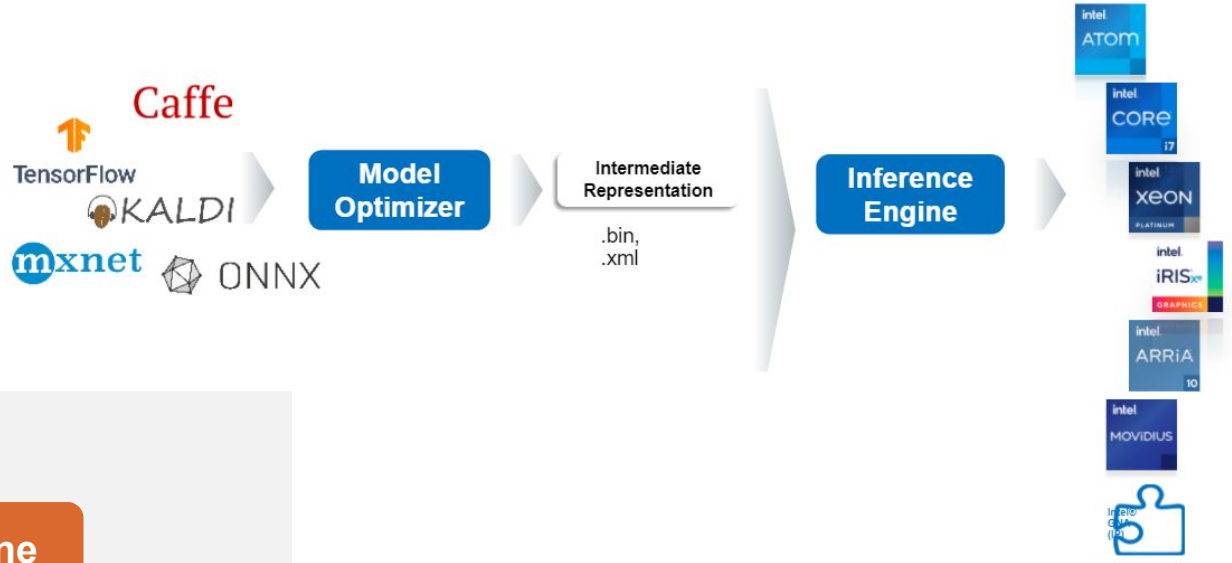
Conversion & Optimization



Quantization

Lower precision, higher performance

Inference Engine



Deep Learning

Intel® Deep Learning Deployment Toolkit

Model Optimizer
Convert & Optimize

IR

Inference Engine

+ samples

IR = Intermediate Representation file

Open Model Zoo

Intel & Public Pretrained Models | **Demos** | **Model Downloader** | **Accuracy Checker**

Deployment Manager | **Post Training Optimization Toolkit** | **Benchmark App**

DL Workbench | **DL Streamer**

Common API reads the Intermediate Representation and deploy them to different target-devices (CPU, GPU, VPU)

Inference Engine performs device-specific optimizations

Intel DevCloud for the Edge

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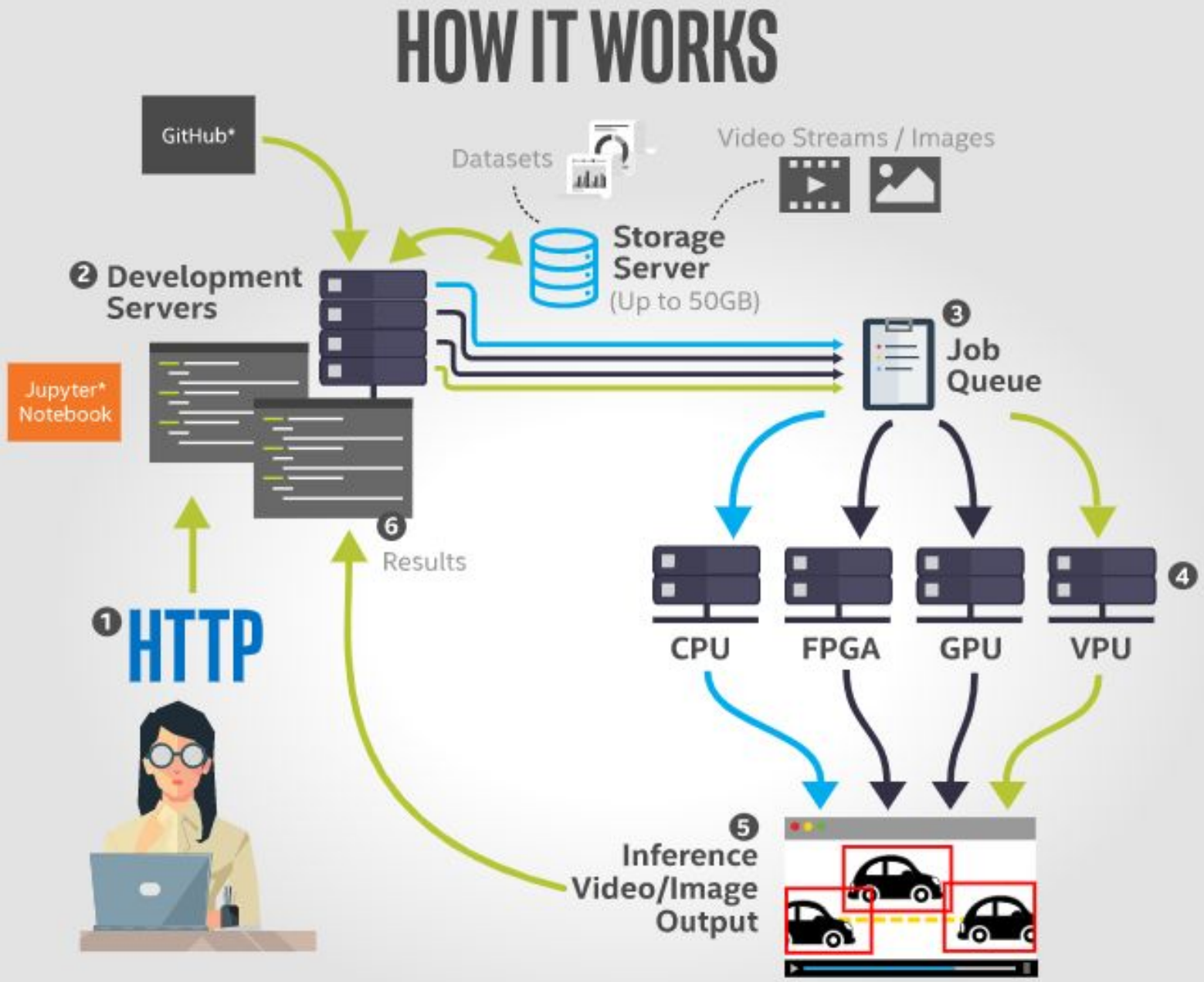
USE OpenVINO ONLINE

LEARN FROM TUTORIALS AND SAMPLE APPLICATIONS

BENCHMARK MODELS ON DIFFERENT PROCESSORS

ACCESS TO INTEL’S XEON SERVERS



1. Login to Intel Devcloud.
2. Upload your model, datasets. Try out OpenVINO in a Jupyter Notebook environment.
3. Submit your code to a Job Queue and send it for execution on multiple devices.
4. Inference on different devices can run in parallel.
5. View the inference output.
6. Receive the results on your server.

Jupyter Notebook Demo

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Post-Training Optimization Tool

1. Go to Intel® DevCloud for the Edge and Login
2. Go to Optimize tab (Optimize (intel.com))
3. Click on Post-Training Optimization Toolkit

Deep Learning Workbench

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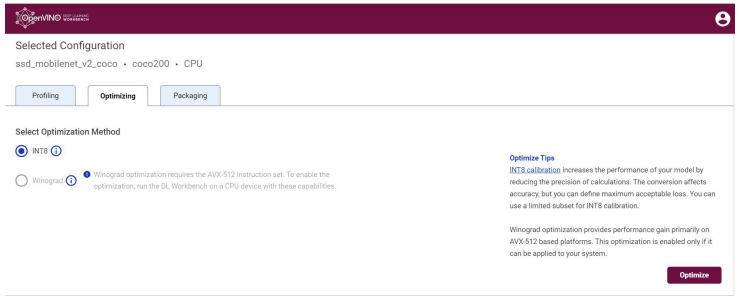
Deep Learning Workbench

Web-based UI extension tool for model analyses and graphical measurements

- **Visualizes performance data for** topologies and layers to aid in model analysis
- **Automates analysis** for optimal performance configuration (streams, batches, latency)
- **Experiment with INT8 or Winograd calibration** for optimal tuning using the Post Training Optimization Tool
- Provide **accuracy information** through accuracy checker
- **Direct access to models** from public set of Open Model Zoo
- Enables **remote profiling**, allowing the collection of performance data from multiple different machines without any additional set-up.



DL Workbench Demo

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DL Workbench

1. Go to Intel® DevCloud for the Edge and Login
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3. Click on Deep-Learning Workbench

Q&A

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