PowerAI Vision

Auto-AI for Images & Video

SOLUTION BRIEF

INTRODUCTION

PowerAI Vision makes computer vision with deep learning more accessible to business users. PowerAI Vision includes an intuitive toolset that empowers subject matter experts to label, train, and deploy deep learning vision models, without coding or deep learning expertise.

Now you can deploy PowerAI Vision models on Xilinx® Alveo™ FPGAs and see how Vitis™ Library is integrated into the whole workflow for Vision AI tasks.

KEY BENEFITS

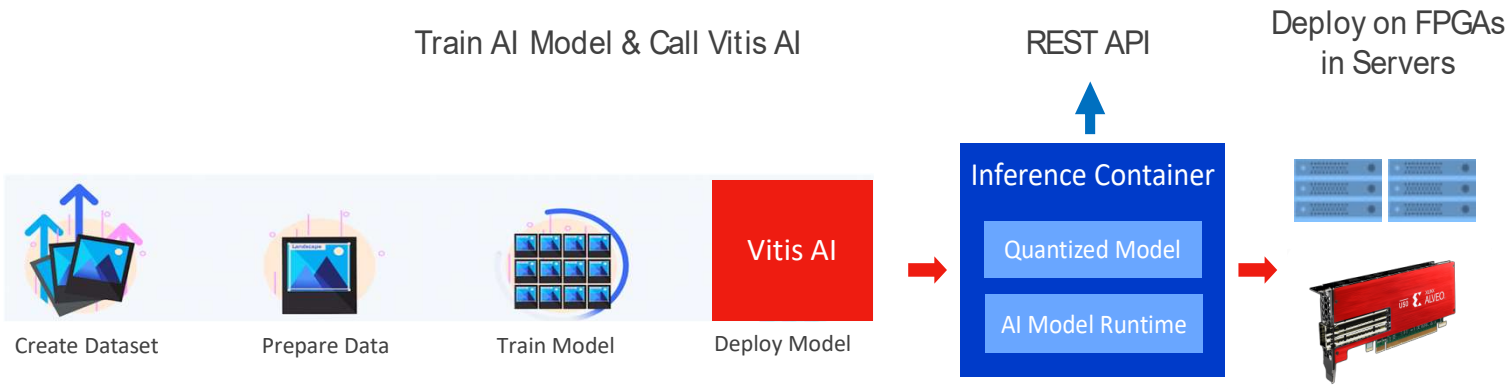
- Simple enough for subject matter experts
- Increases productivity automating tasks
- Flexible – train and deploy anywhere
- Adaptable – supporting custom models
- Enterprise-grade reliability and support

- Streamline processes to label, train, monitor and deploy
- Video analytics made easy for training and inference
- Deploy models on-premises, in the cloud, and on edge devices

SOLUTION OVERVIEW

As a complete auto-deep learning workflow for videos and images, PowerAI Vision is a GUI based AI software.

- You start by using the GUI to label your images or video frames
- Then click on “Build Model” and the software automatically picks a deep learning (DL) model, trains it, shows you the progress via graphs. It automatically picks the hyper-parameters for the DL models.
- Once the model is trained, PowerAI Vision produces a REST API, or can also target embedded GPUs or FPGAs



PowerAI Vision

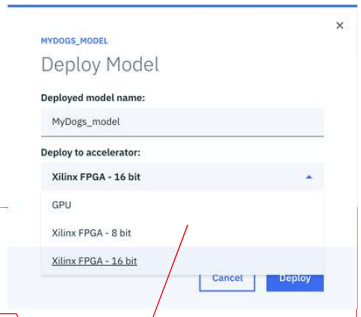
Auto-AI for Images & Video

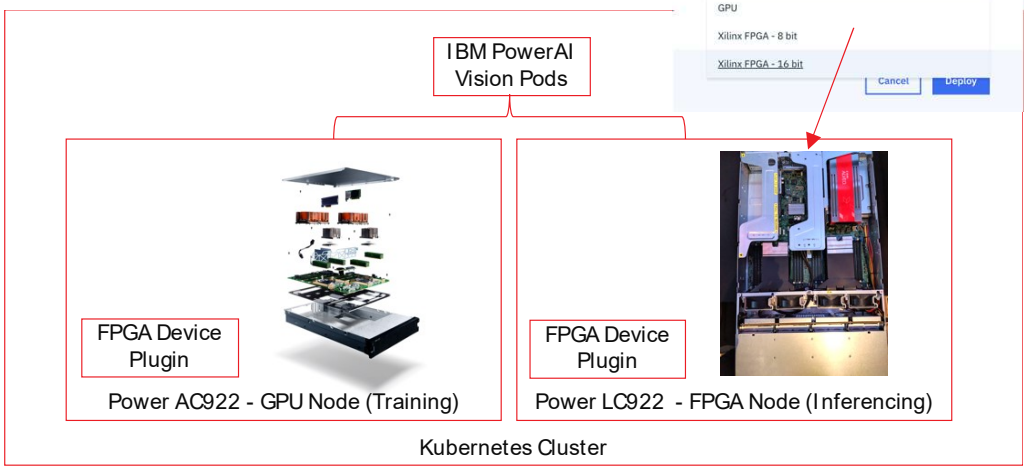
SOLUTION DETAILS

PowerAI Vision uses Microservices on Kubernetes.

Training:
- Creates a new POD/Container
- Allocates GPU
- Trains
- Exits

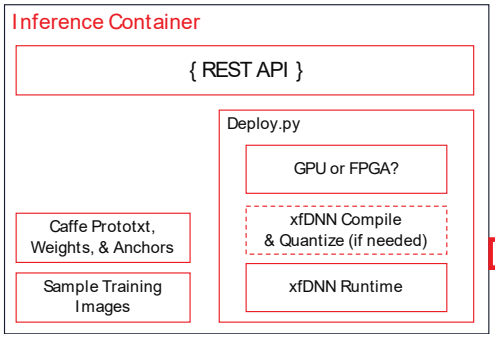
Inferencing:
- Creates a new POD/Container
- Allocates Accelerator (GPU or FPGA)
- Provides Inferencing API
- Device Plugin Framework (node demons manage the allocation and status of FPGAs)





RESULTS

Vision inferences in multiple scenarios. For example:
- Queue management in Retail stores
- Worker safety
- Predict scoring the basketball game
- Monitor Behavior



TAKE THE NEXT STEP to ACCELERATE MORE

Learn more about Xilinx Alveo accelerator cards
Learn more about PowerAI Vision: https://www.ibm.com/us-en/marketplace/ibm-powerai-vision

OpenCAPI™ Acceleration Framework

Learn more about Coherent Accelerator Processer interface OpenCAPI: https://opencapi.org
And OpenCAPI Acceleration Framework: https://opencapi.github.io/oc-accel