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

**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
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 Coherent Accelerator Processor interface OpenCAPI: [https://opencapi.org](https://opencapi.org)
And OpenCAPI Acceleration Framework: [https://opencapi.github.io/oc-accel](https://opencapi.github.io/oc-accel)