



Building Vision Edge Solution with Vision AI Dev Kit

Devin Wong
Mahesh Yadav

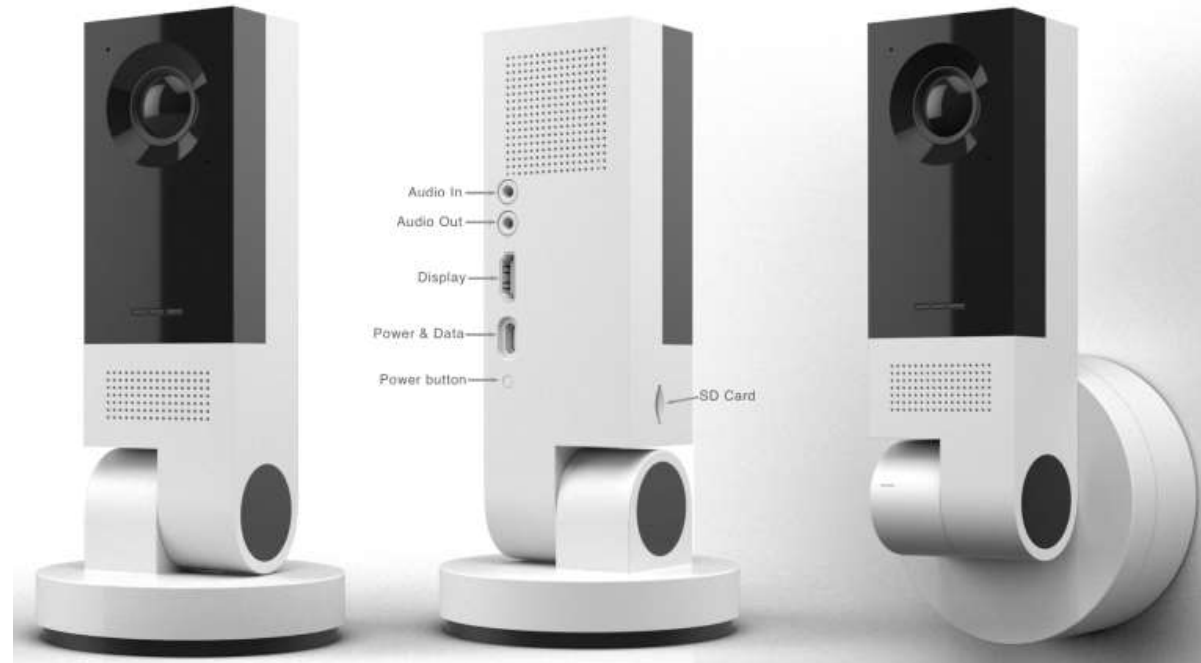


Why Vision AI Dev Kit?

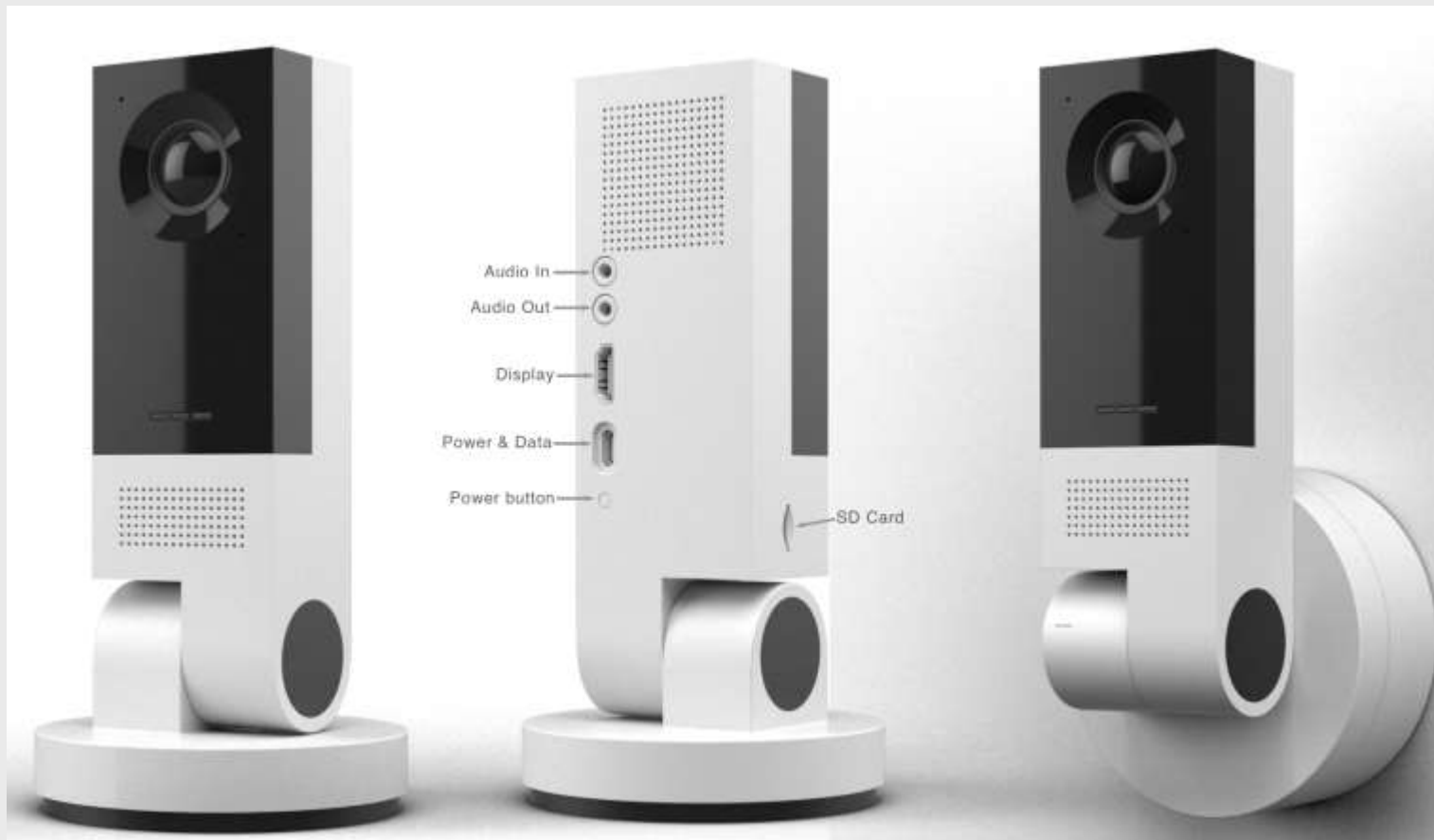
High-speed and volume of Frame processing on edge, building machine learning models and IoT edge management are more essential than ever.

Vision AI Dev Kit

- Provide an easy and unified way to build, manage and deploy Vision related solution even without cloud connection.
- To share work done by Microsoft and our partners in Vision AI field to democratize AI for all
- Allow developers and data scientist to quickly build solutions and share their work



Vision AI Developer Kit Hardware Specification



Technical information

Main board	Vision AI developer kit
OS	Yocto Linux
SOC	Qualcomm QCS603
PMIC	PME 605/8005
WIFI/BLE	WIFI/BLE WCN3980 (1x1)/ BL 5.x
Camera	8MP/4K UHD
eMMC	16GB
LPDDR4x	4GB
Speaker / Mic	Line in / out / 4x Mic / Speaker
Ethernet (RJ45)	Via USB-C with adapter
Power	Rechargeable battery / PoE / USBC
Storage	SD slot for micro SD card
Indicator	3x LEDs
USB	USB Type C
HDMI	HDMI A

Getting started with Vision AI Dev Kit

Tools For AI in VS Code

Build your first AI training model

1. Click [HERE](#) to download the sample model ([see more details](#));
2. Press **F5** to build and launch your model;
3. Congratulations! Your first AI training model is done. Try it out.

Training Samples ([More](#))

MNIST using TensorFlow	CIFAR10 using TensorFlow
Training & evaluating the MNIST network using a feed dictionary. MNIST is a popular dataset for handwritten digits	Train and evaluate a CNN model on CPU with CIFAR10 dataset. CIFAR-10 is a common benchmark in machine learning for image

<https://www.customvision.ai/>



Upload Images
Bring your own labeled images, or use Custom Vision to quickly add tags to any unlabeled images.

Train
Use your labeled images to teach Custom Vision the concepts you care about.

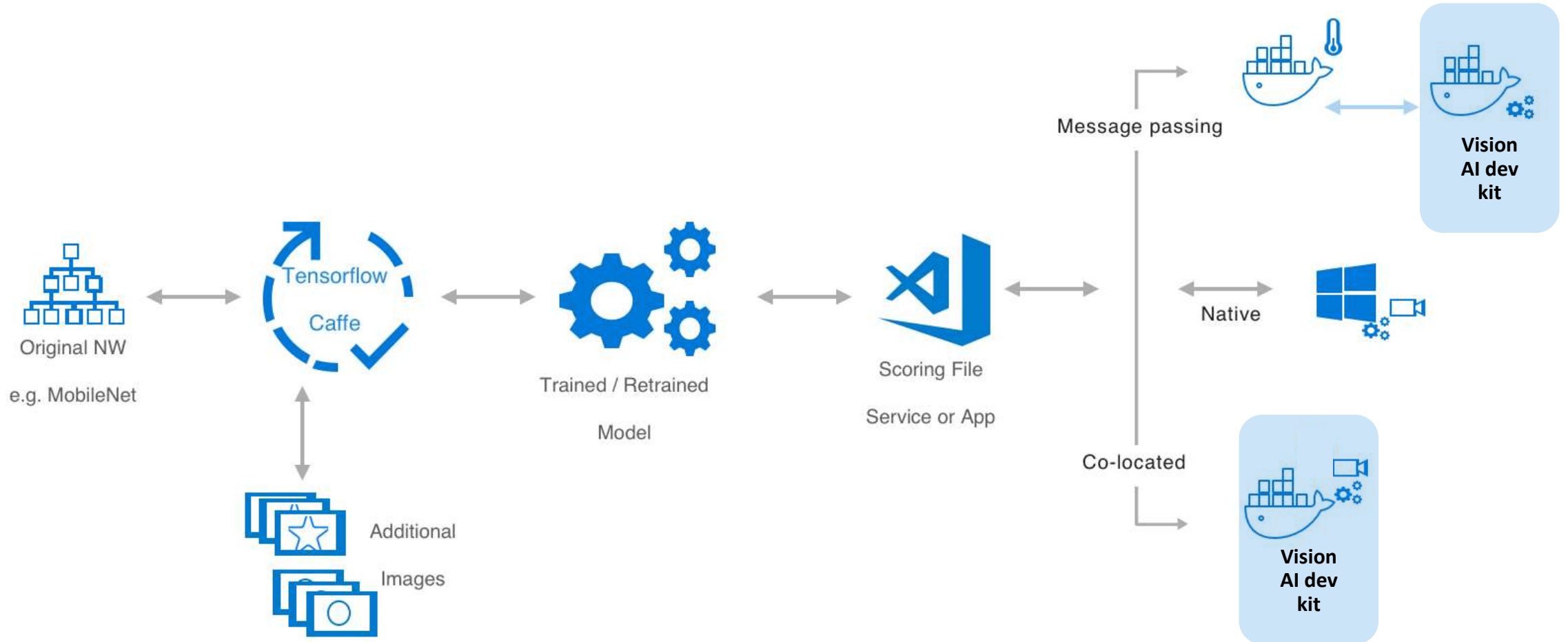




Model creation / retraining

Building AI Solutions for the Intelligent Edge

The components of a Vision AI application

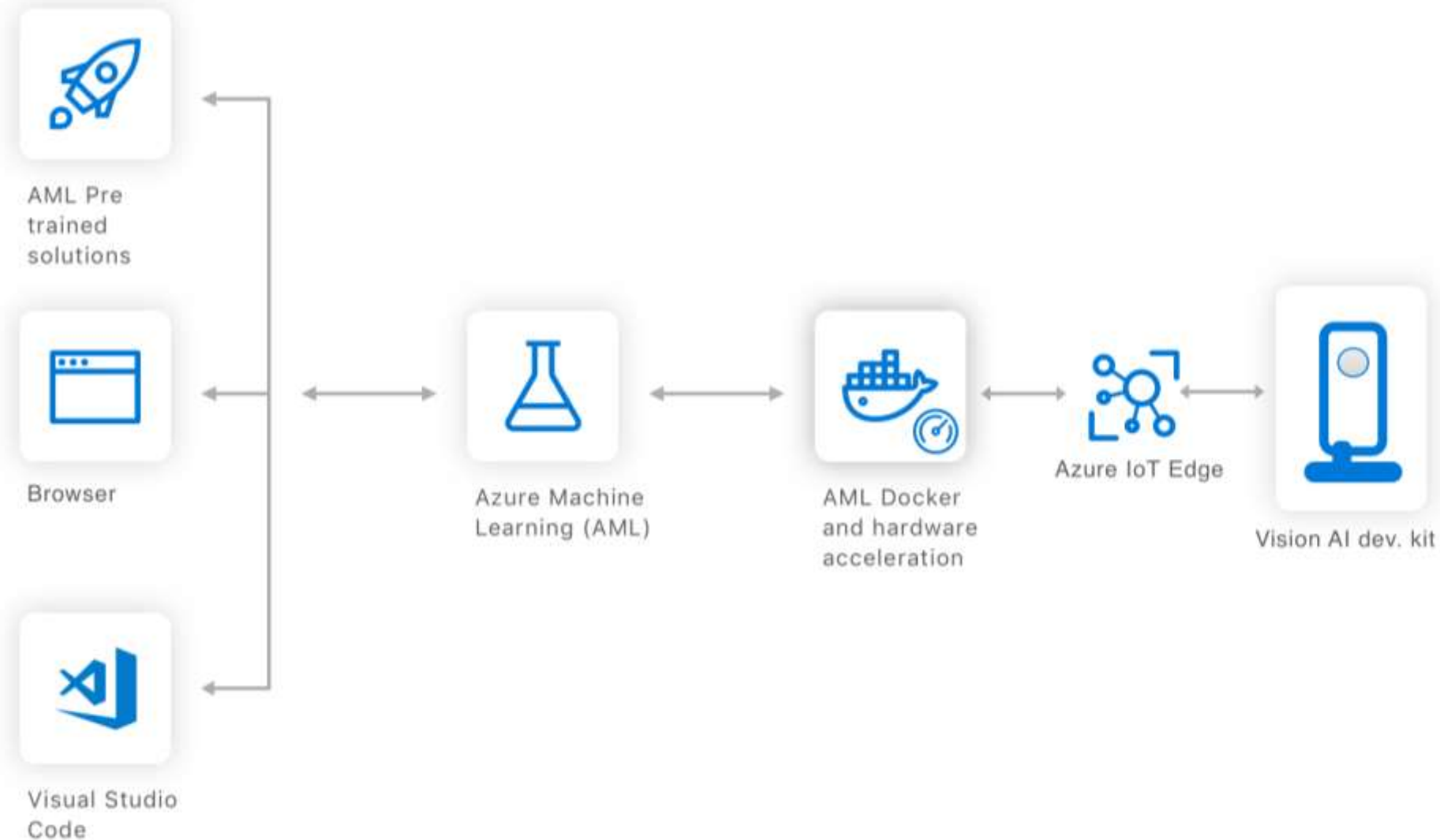


Build your first Vision AI Dev Kit solution using 3 steps

- 1. Bring your images**
- 2. Retrain using transfer learning**
- 3. Manage and deploy using AML and Azure IoT**

Vision AI Dev Kit Demo

Vision AI Development kit – System Architecture



Questions ???



IoT in Action

THANKS!!



IoT in Action