AnyConnect

The *Smarter* AI™ Camera Platform

Computer Vision

Version 1.1 | As seen on Computer Vision

What is Computer Vision

Humans use their eyes and brains to see the world around them. Computer vision is the field of artificial intelligence that enables similar capabilities in a camera. Using machine learning and deep learning algorithms and models, cameras can classify and identify objects and their attributes and react to what they “see.”


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      "brand": "Specialized",
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      }
   },
   "person": {
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      "gender": "male",
      "cloths": {
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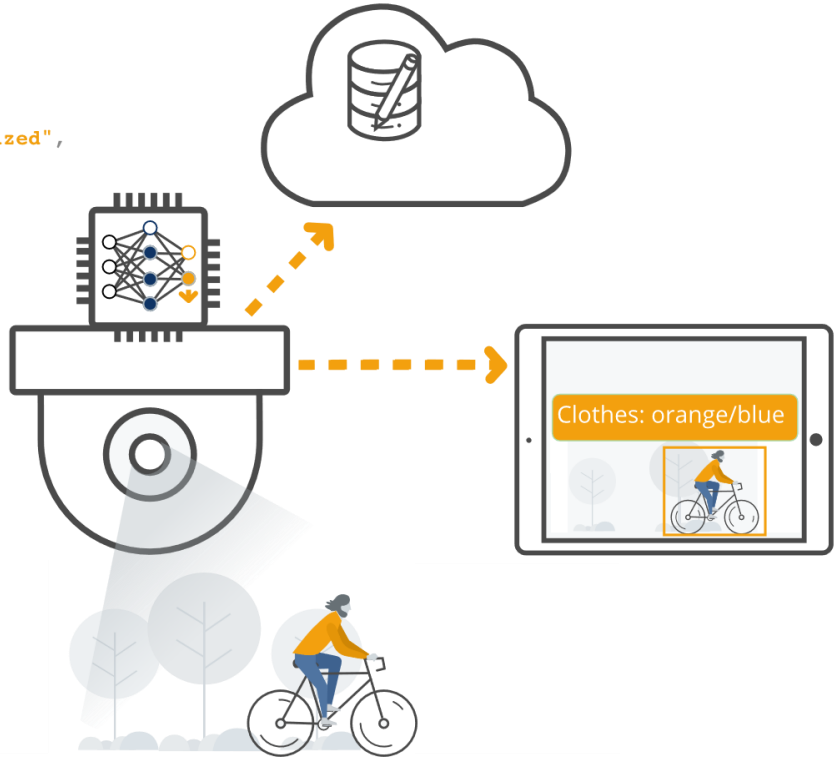
            "Orange",
            "Blue"
         ]
      }
   }
}
```

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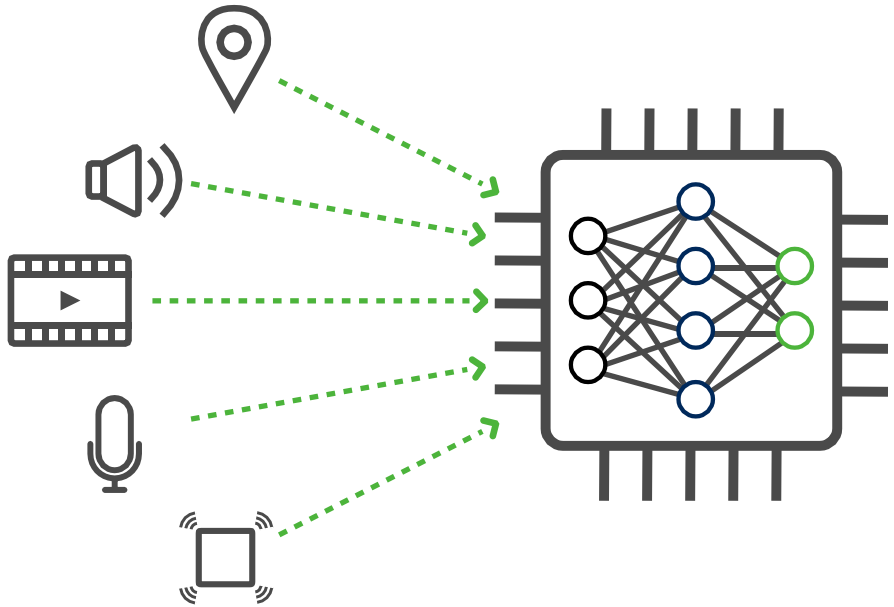

Beyond vision, humans intuitively combine sight, hearing, touch, equilibrioception, and other senses to apprehend the world around them. AnyConnect Computer Vision supports Sensor Fusion and Data Fusion through sensors like microphones, thermal imagers, Satellite Positioning Systems, Gyroscopes, CAN buses, and much more, to enhance the understanding of a scene, the quality and accuracy of inferences as well as the capabilities of the system.

You can use any sensor data encoding and/or compression algorithm, whether it's using a standard SensorML or an in house delta based encoding. AnyConnect's Adaptive Bitrate technology is compatible with some data encoding & compression techniques.

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AnyConnect Smarter AI™ Camera Platform empowers you to deploy, monitor, and manage, securely, cloud, and edge inference on millions of devices on standard internet connections. Encryption and Access Control native, AnyConnect's platform enables you to deploy Neural Networks at the edge, over the air, to different devices with different Neural Network & AI Accelerators in a seamless manner. Instant Connections and Adaptive Streaming make real-time, low latency video over wireless networks possible.


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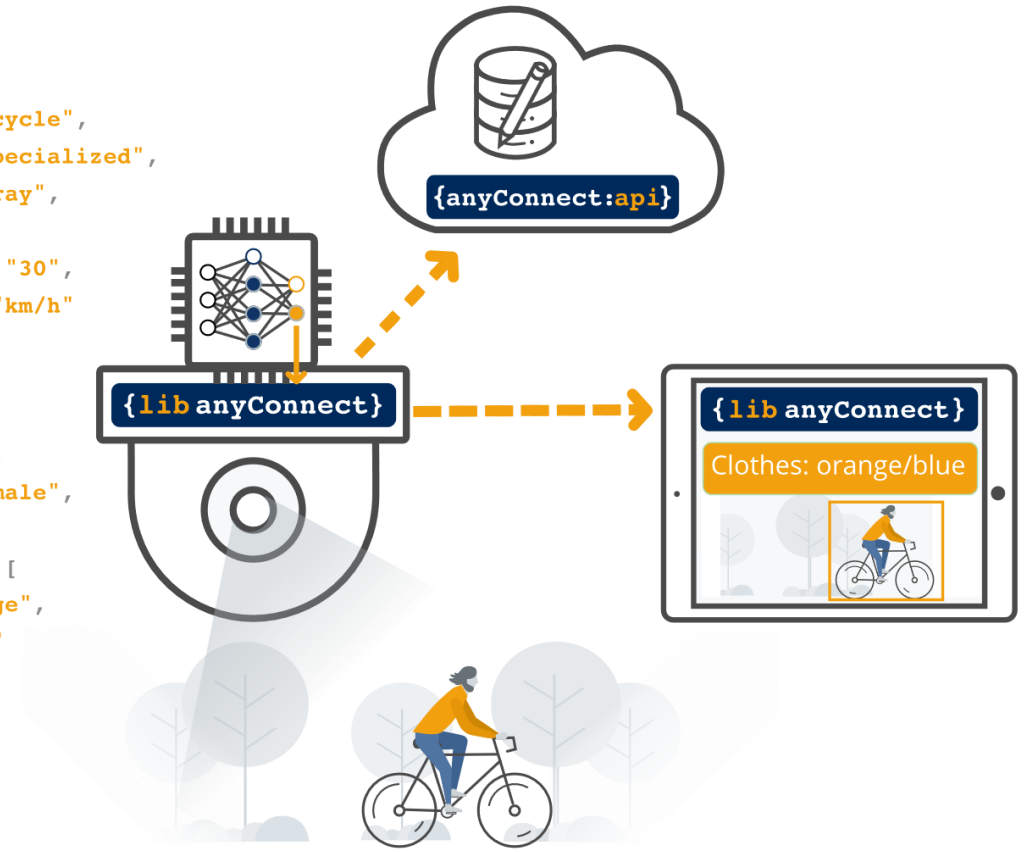

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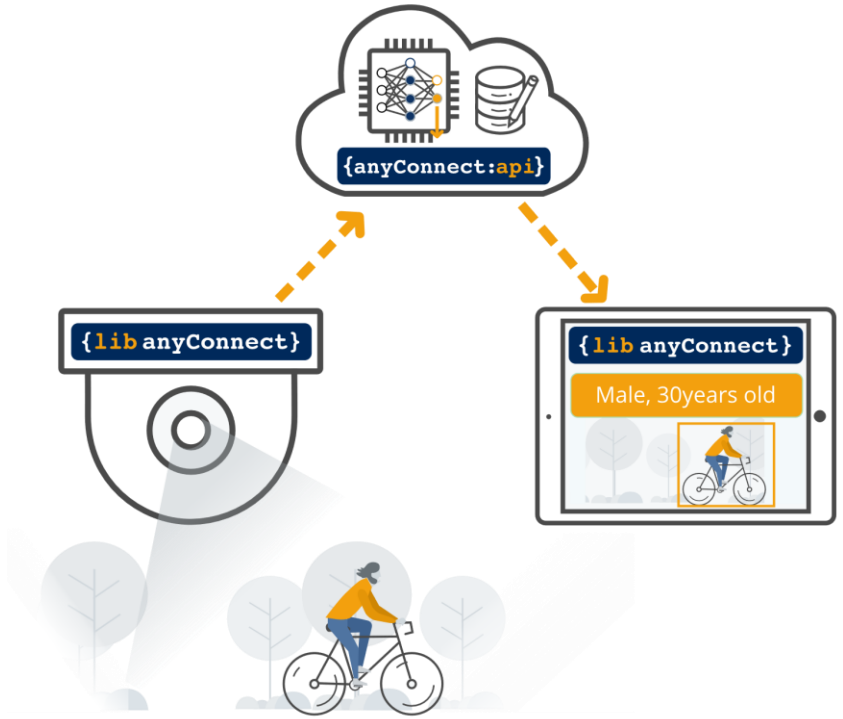
Cloud Inference



AnyConnect offers inference in the cloud: the camera sends video, audio, and data to AnyConnect Cloud Platform for Analysis. Computer Vision algorithms analyze it and provide an understanding of the scene, subjects & objects. Cloud Inference is a great solution to enable computer vision on cameras and devices without Neural Network Processing capabilities (AI accelerator, GPU, etc.). The inference generated is stored in a database and presented in a Console.

Cloud inference works on recorded video as well. It empowers users to analyze days of recorded video rapidly with new computer vision algorithms.

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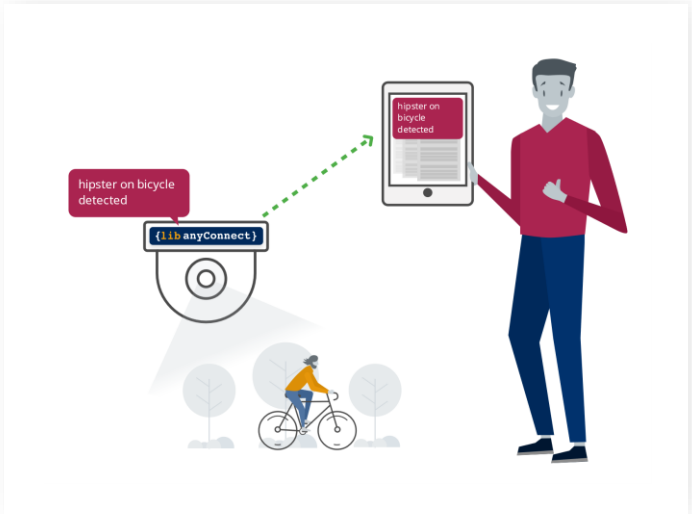
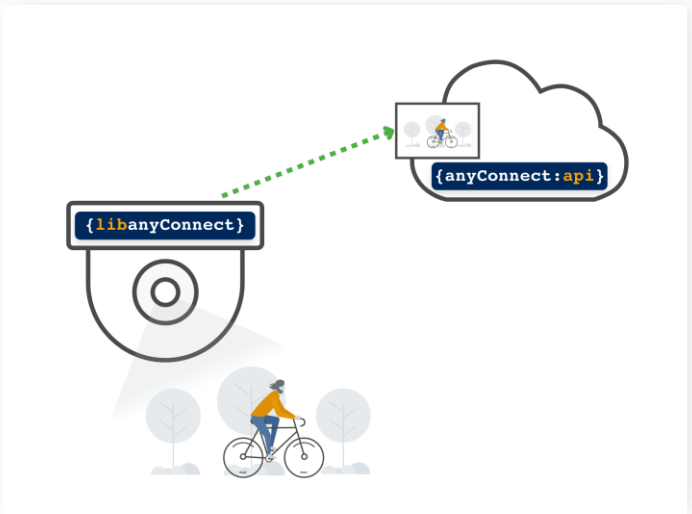
Works on any camera



Data Saver: Sends pictures only



Real-Time Notifications

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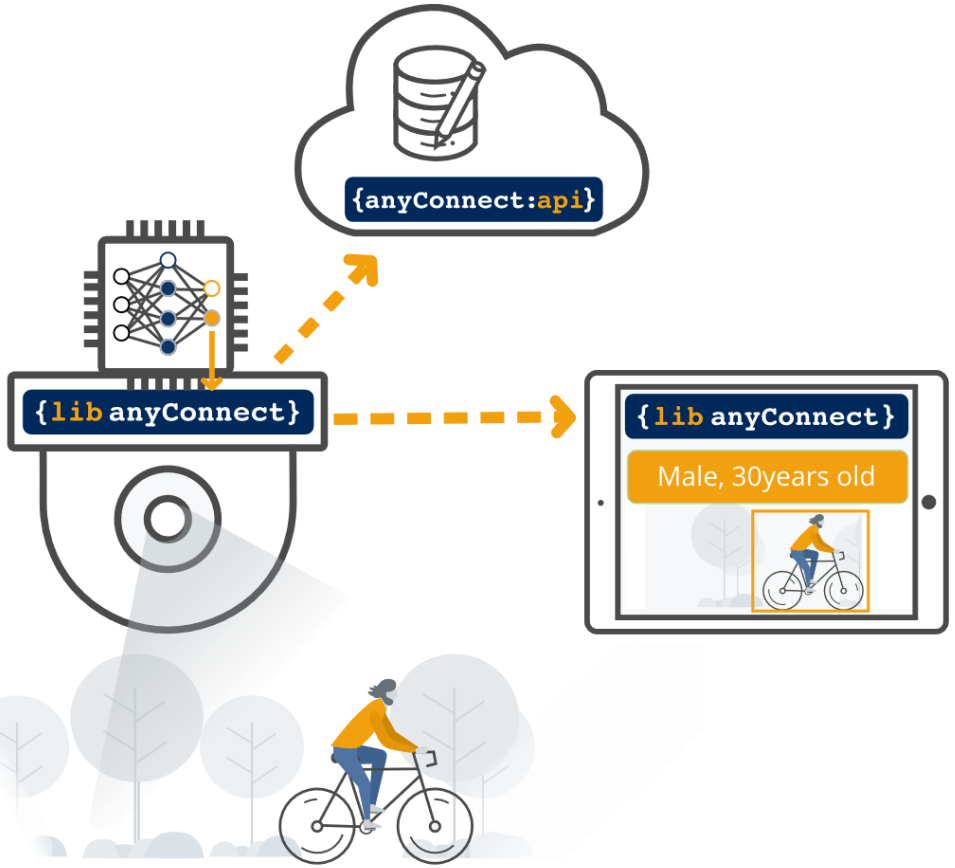
Edge Inference

In Edge inference, by opposition to Cloud Inference, the classification/decision of a Neural Network is happening at the edge (typically on cameras). While inferring on a single development board with a Neural Network Accelerator is relatively straightforward, deploying different neural networks from various frameworks, securely, over the air, to millions of different edge devices in the field is much more complicated.

Edge inference can also happen on a client device with AnyConnect. In this configuration, the client device uses its in-built neural network accelerator to infer on recorded video, rapidly analyzing hours of video with new models. This solution is great to limit cloud costs as well as in offline scenarios where a phone is connected to a camera but not to the internet.



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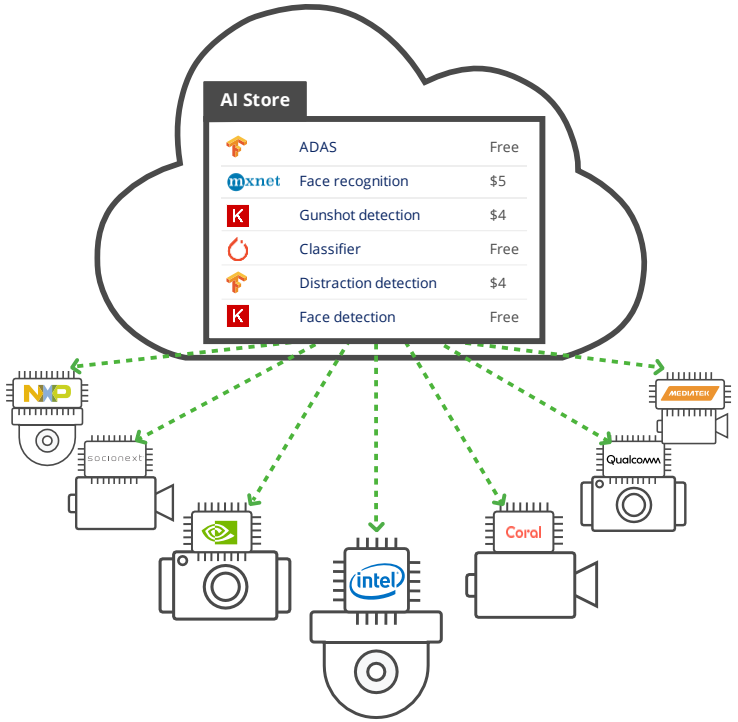
AI Store



AnyConnect Smarter AI™ Camera Platform's AI Store gives you access to AI Containers (holding Trained Neural Networks) ready to be deployed to the edge. The AI Store contains open-source as well as proprietary (free and at-cost) trained models. You can also add your own proprietary trained networks, make them private, or make them public and sell them through the AI Container Repository.

The AI Container Repository supports Trained Neural Networks from most frameworks, such as TensorFlow, PyTorch, Keras, MXNet, and many more.

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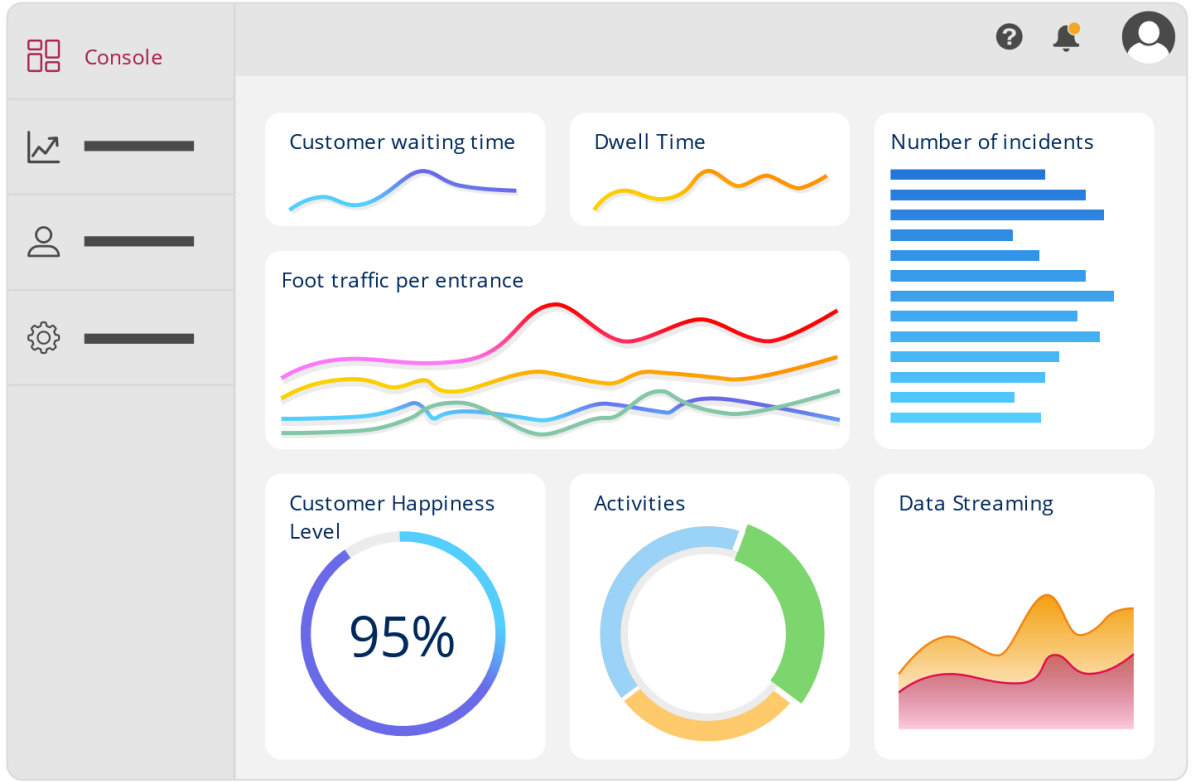
Deployment at scale

AnyConnect Smarter AI™ Camera Platform enables you to deploy securely, manage, and monitor AI Containers (holding trained neural network models) on millions of cameras. The platform monitors the quality of the inferences and creates new training data in case of identifiable false positives and negatives as well as in incorrect inference. All inferences are recorded in a database and presented in a Console, ready to provide insight. Inferences could also be used to trigger instant notifications as Edge Inferences on the AnyConnect Platform have very low latency.



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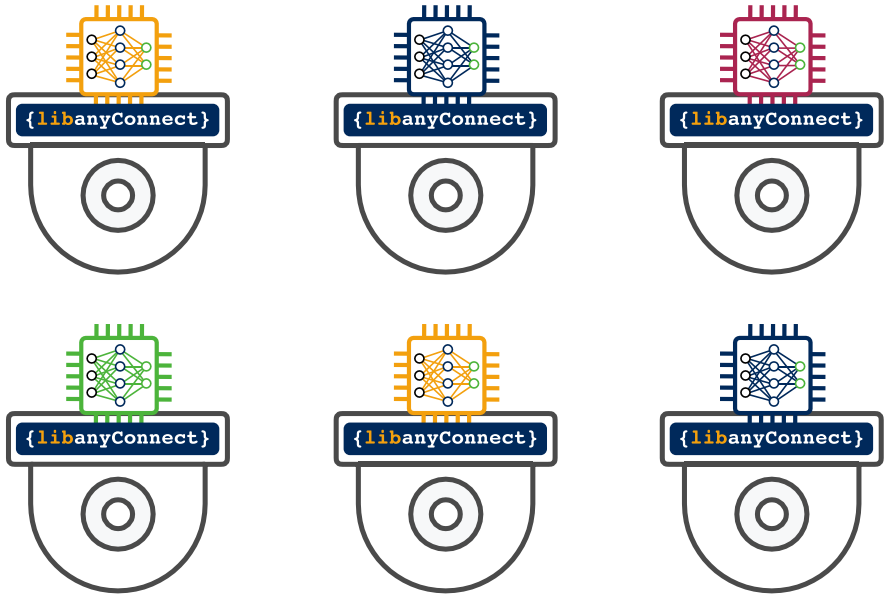
Any Edge Inference Accelerator



AnyConnect Smarter AI™ Camera Platform, through the AI Store, supports the deployment of AI Containers (holding Trained Neural Networks) on multiple types of AI Accelerators (CPUs, GPUs, Intel AI, Google Coral, NVIDIA Jetson, Qualcomm, NXP, MediaTek, and many more). We can integrate new Neural Network accelerators in a short time, upon request.

Fog Computing, partial inference at the edge and partial inference in the cloud, is supported as well. Fog Computing offers many benefits, like reducing the amount of data sent over a network as well as enabling inferring with large models that could not fit on the edge device.

Applications

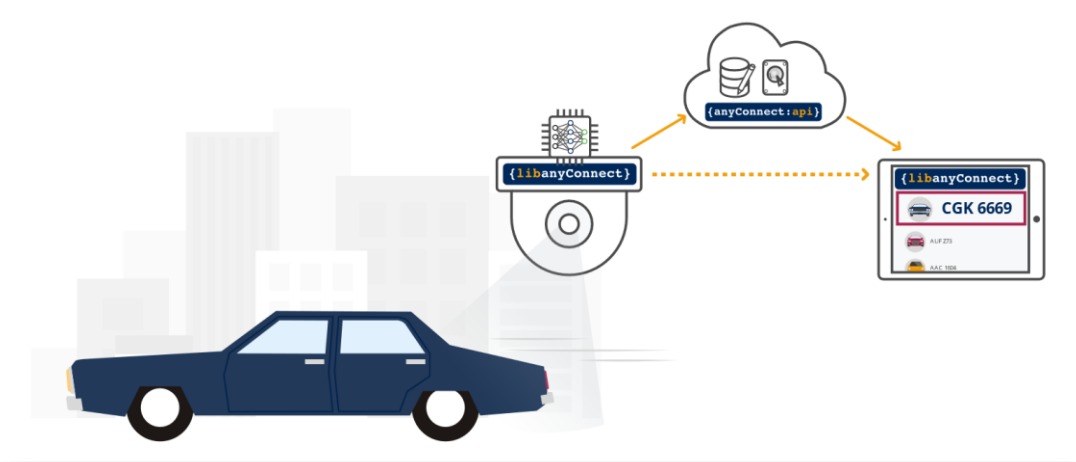
AnyConnect Smarter AI™ Camera Platform enables almost any Neural Network to be deployed on edge devices. Edge Inference works on nearly every kind of data, such as video, thermography, audio, as well as sensor data like position, acceleration, vehicle parameters, etc.

As Edge Inference Accelerators are still in their infancy, they are not as powerful as their server bound counterparts. Cloud and Fog inference enable your customers to go beyond on-camera processing limitations.

AnyConnect Smarter AI™ Camera Platform enables in-demand applications such as:

Face Recognition

Automatic Number Plate Recognition (ANPR)



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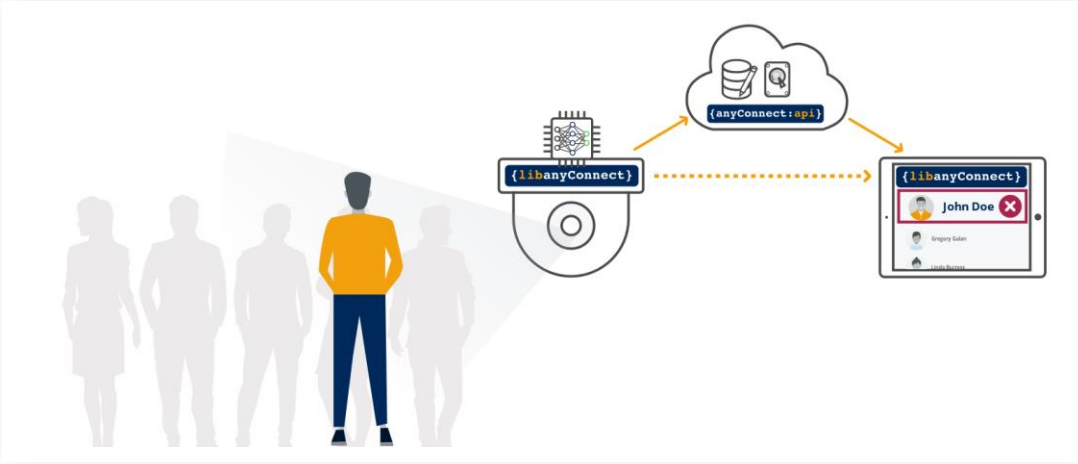
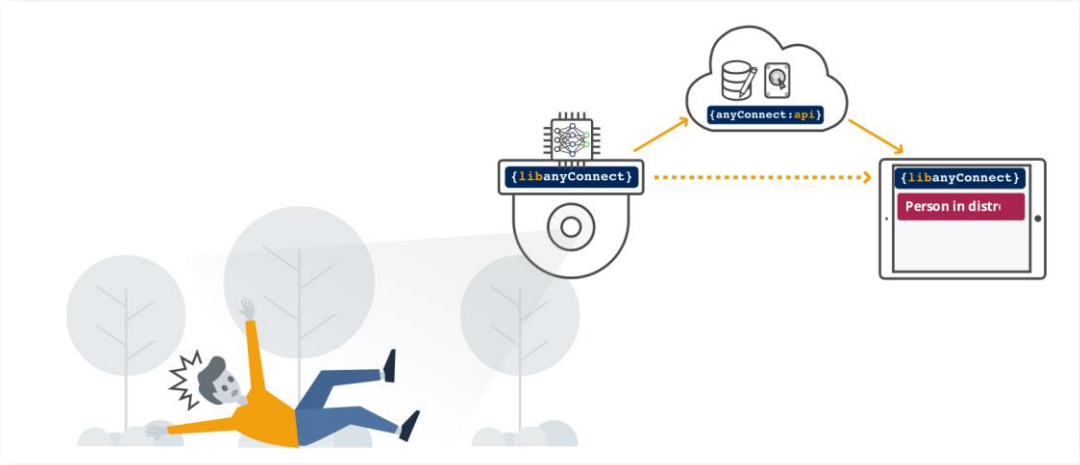
Advanced Drive-Assistance System (ADAS)

Blacklists/Whitelists: Facial Recognition and ANPR



People behaviors (falls, fights etc.)



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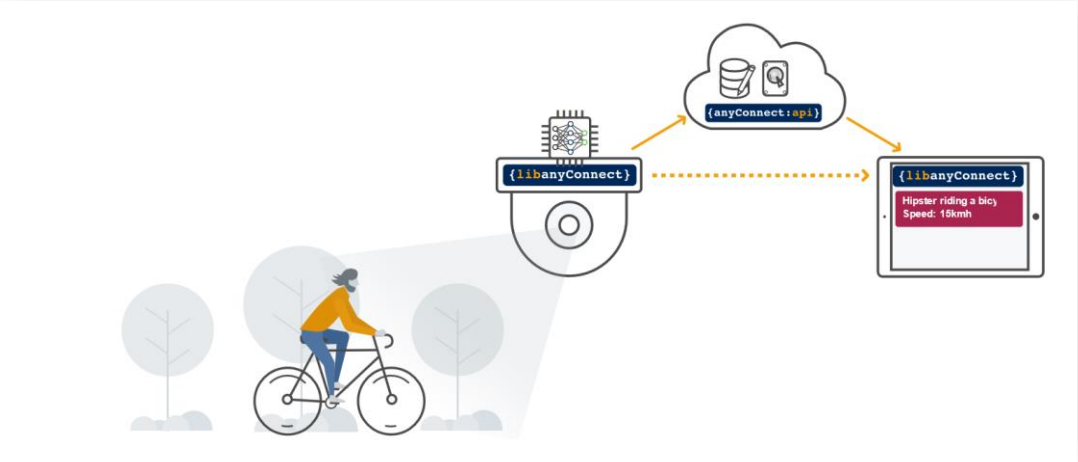
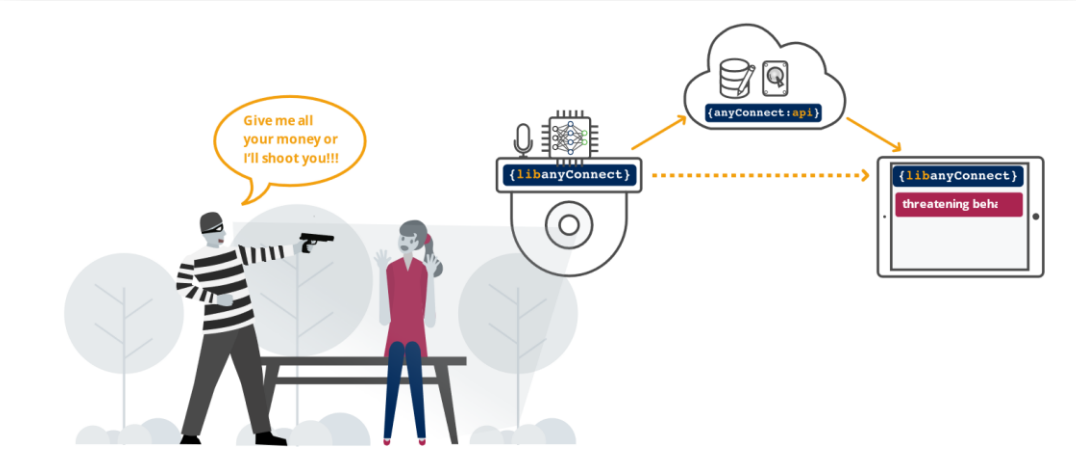
The platform flexibility allows for tailor-made applications, such as:

Scene Recognition: Describe and categorize a scene



Speech-to-Text



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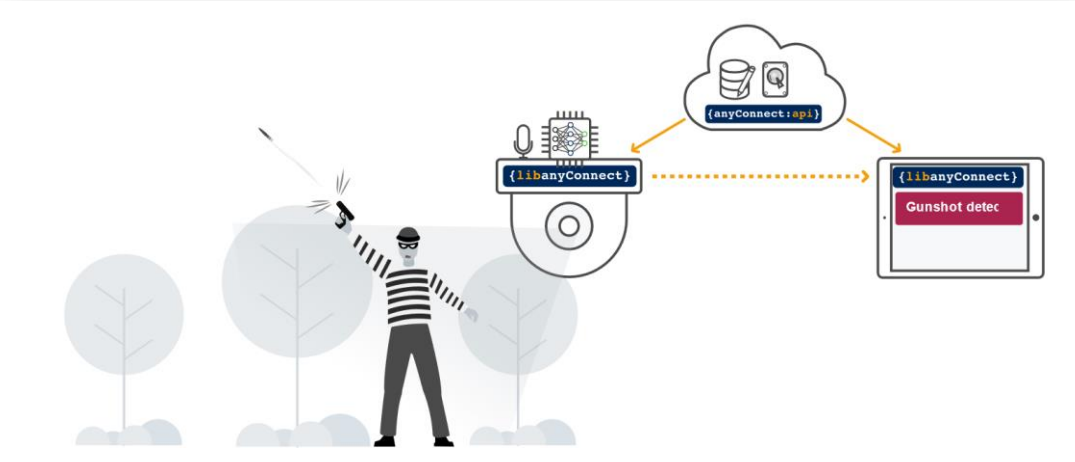
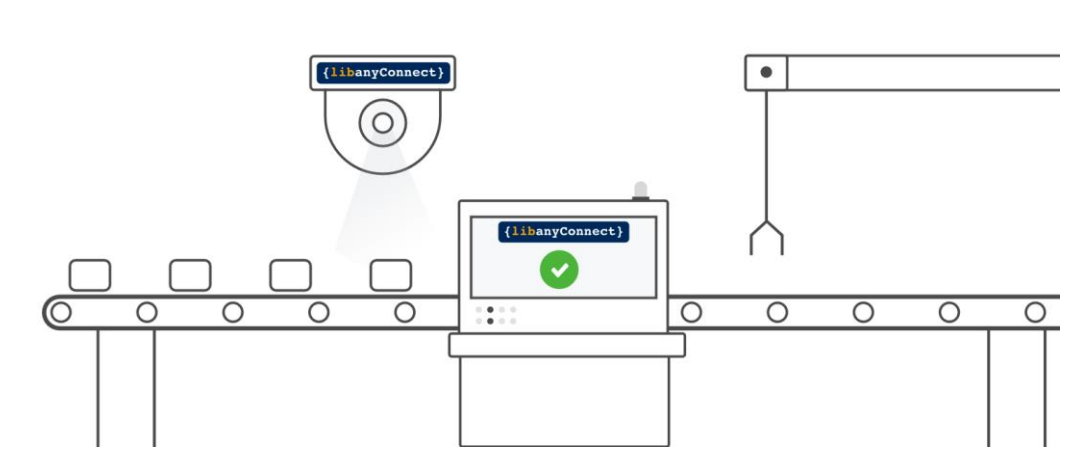
Noise Recognition: Gunshot, etc.

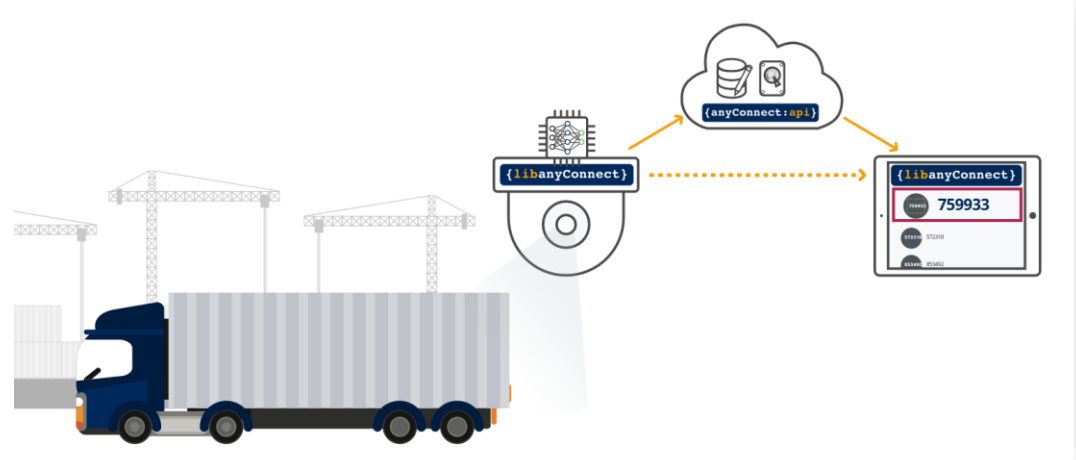


Emotion Detection

Industrial Process Conformance Detection



Container Number Recognition & other OCR



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Get started with AnyConnect.

Ready to get started? Contact us

Talk to an expert

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