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01

COMPUTER VISION

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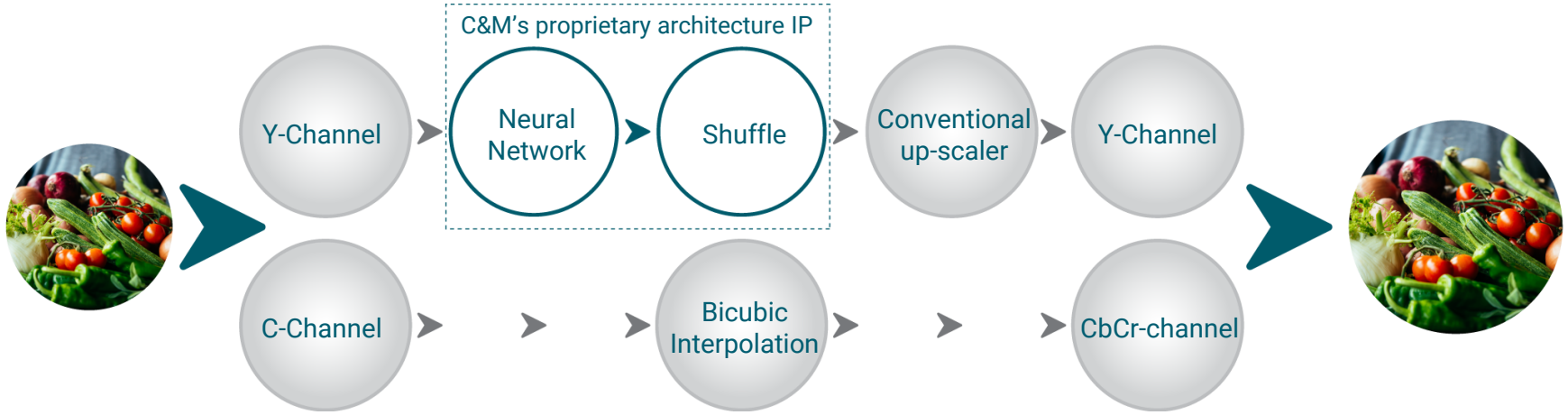
Computer Vision: Super-Resolution HW IP

c.WAVE120 is a fully hardwired deep learning-based super-resolution HW IP that upscales low-resolution data into high resolution in real-time.

The neural network on c.WAVE120 is designed and trained to upscale video horizontally and vertically to two, three, and four times larger with enhanced resolution results. c.WAVE120 performs upscaling tasks by utilizing a massive set of training datasets. c.WAVE120 extracts the feature points of an image or video, splits them pixel by pixel, applies the appropriate colors to fill in the missing parts of the data, stitches them, and then reproduces sharper, higher-resolution images. In modern technology, neural networks are implemented in the form of processors or accelerators of processors. However, this type of implementation tends to be hard to optimize performance due to structural limitations.

c.WAVE120 is designed and developed for SoC (System-on-Chip), capable of processing 8K (7680x4320) 60fps output images.



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Computer Vision: Super-Resolution HW IP

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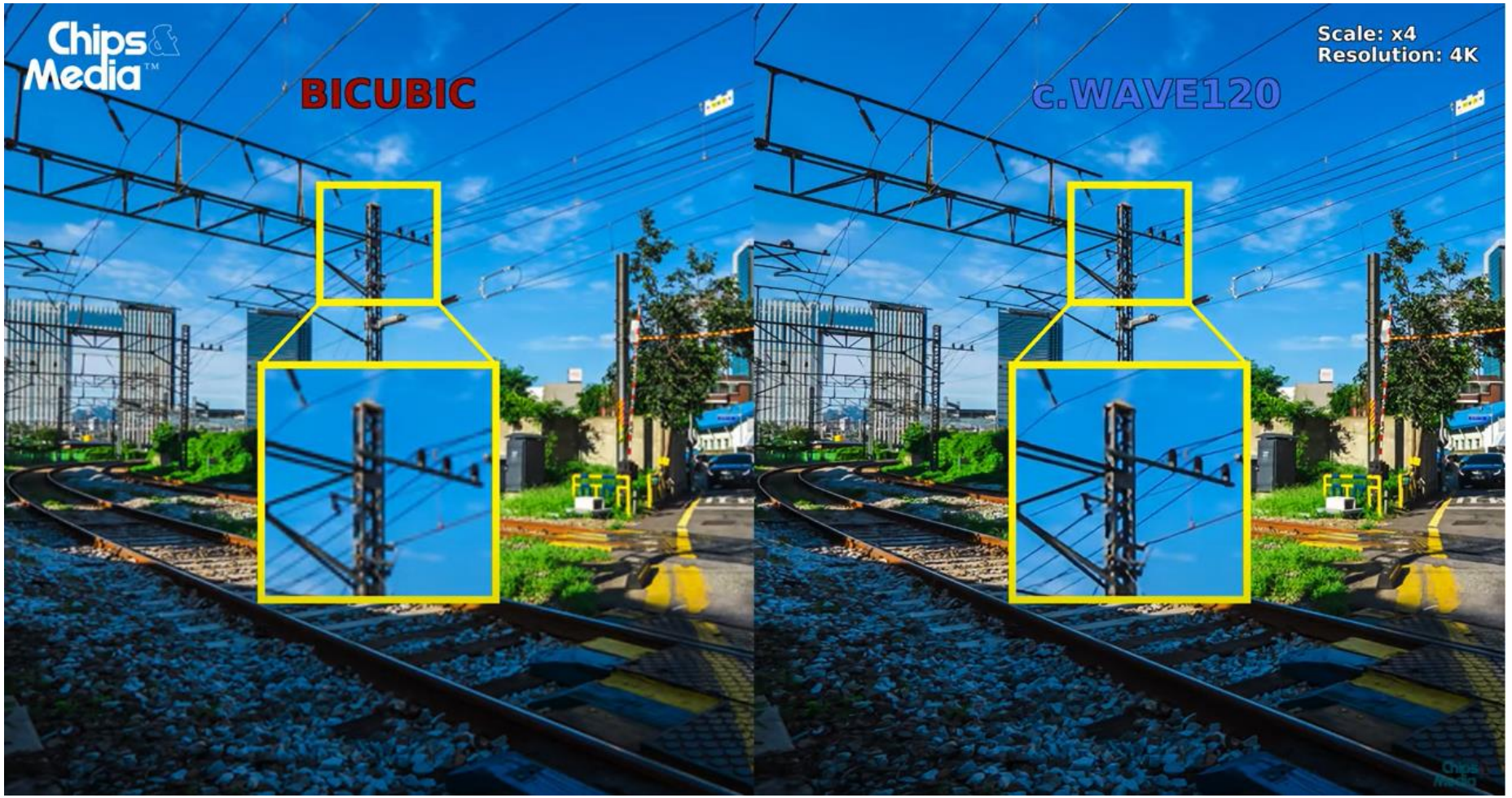
Computer Vision: Technology Demo Video

Click the link to view a technology demo video of c.WAVE120, super-resolution HW IP, by Chips&Media



Click here to play the video.

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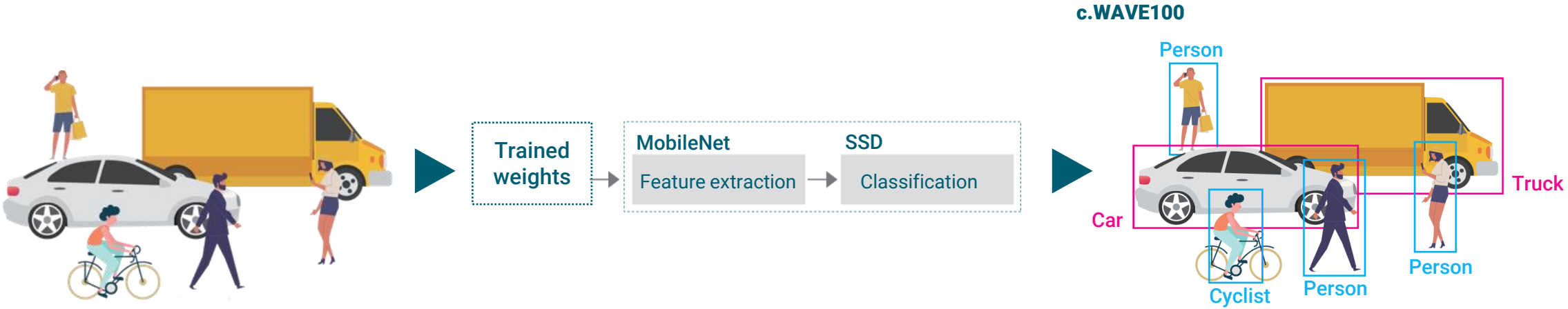
Computer Vision: Object Detection HW IP



c.WAVE100 is Chips&Media's first computer vision IP, a robust deep learning algorithm of object detection with the capability to process 2K resolution at 30fps input in real-time. It detects and classifies the objects, up to **20 classifiers**, intuitively into configurable categories using anew convolutional neural networks deep learning, based object from live or recorded video. It's detecting instances of semantic objects of a specific class in digital images and videos, such as a car, cyclist, truck, pedestrian, and more.

The key differentiating features of c.WAVE100 is that it's a fully hardwired and neural network dedicated architecture for a significant reduction in memory accesses and memory bandwidth requirements. Moreover, c.WAVE100 provides high performance with low power consumption. The IP is optimized to target computing-intensive edge devices in automotive and surveillance applications, where high performance, power, and area efficiencies are essential.

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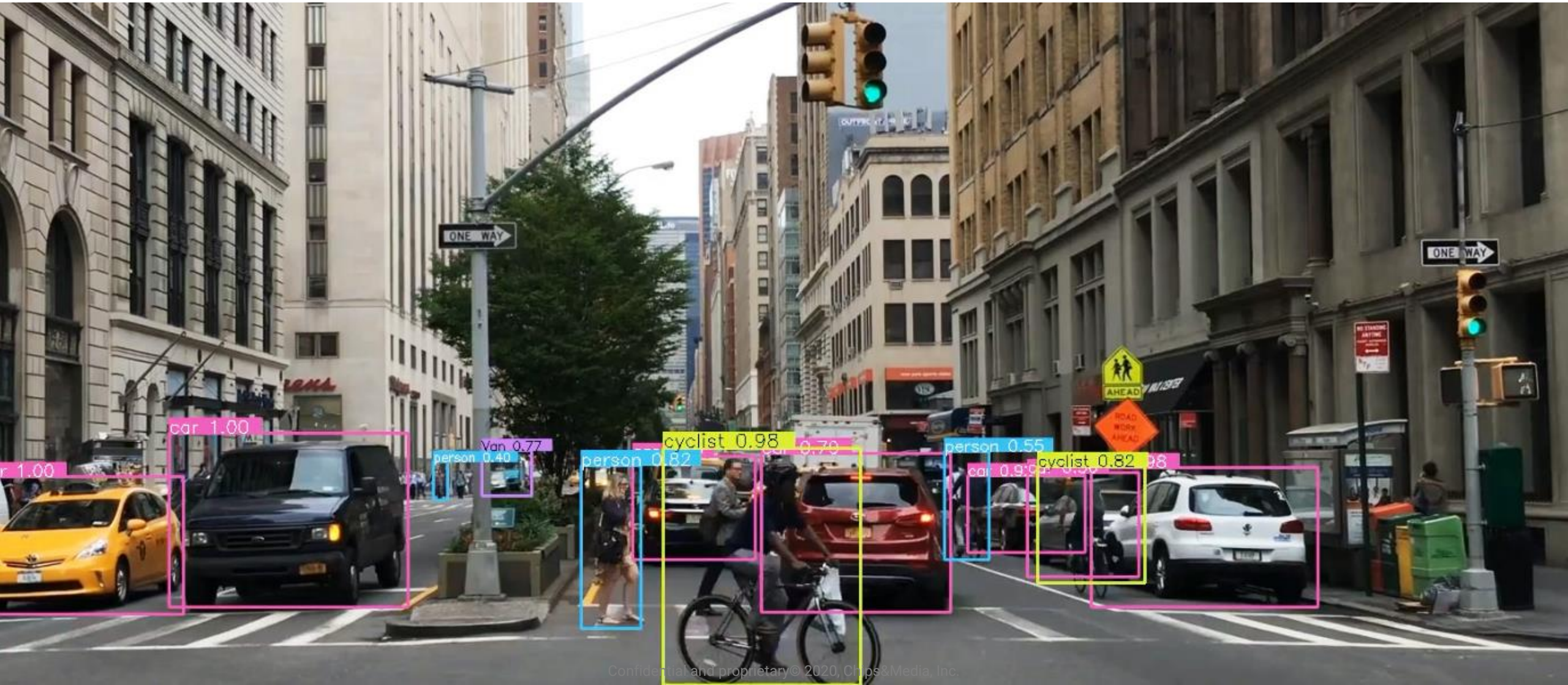
Computer Vision: Object Detection HW IP



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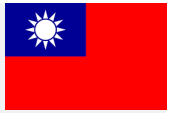

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THANK YOU