

presents

Carrie



ADAS: Where the Rubber meets the Road

Carrie: A mobile testbed offering realistic assessment of Neural Networks

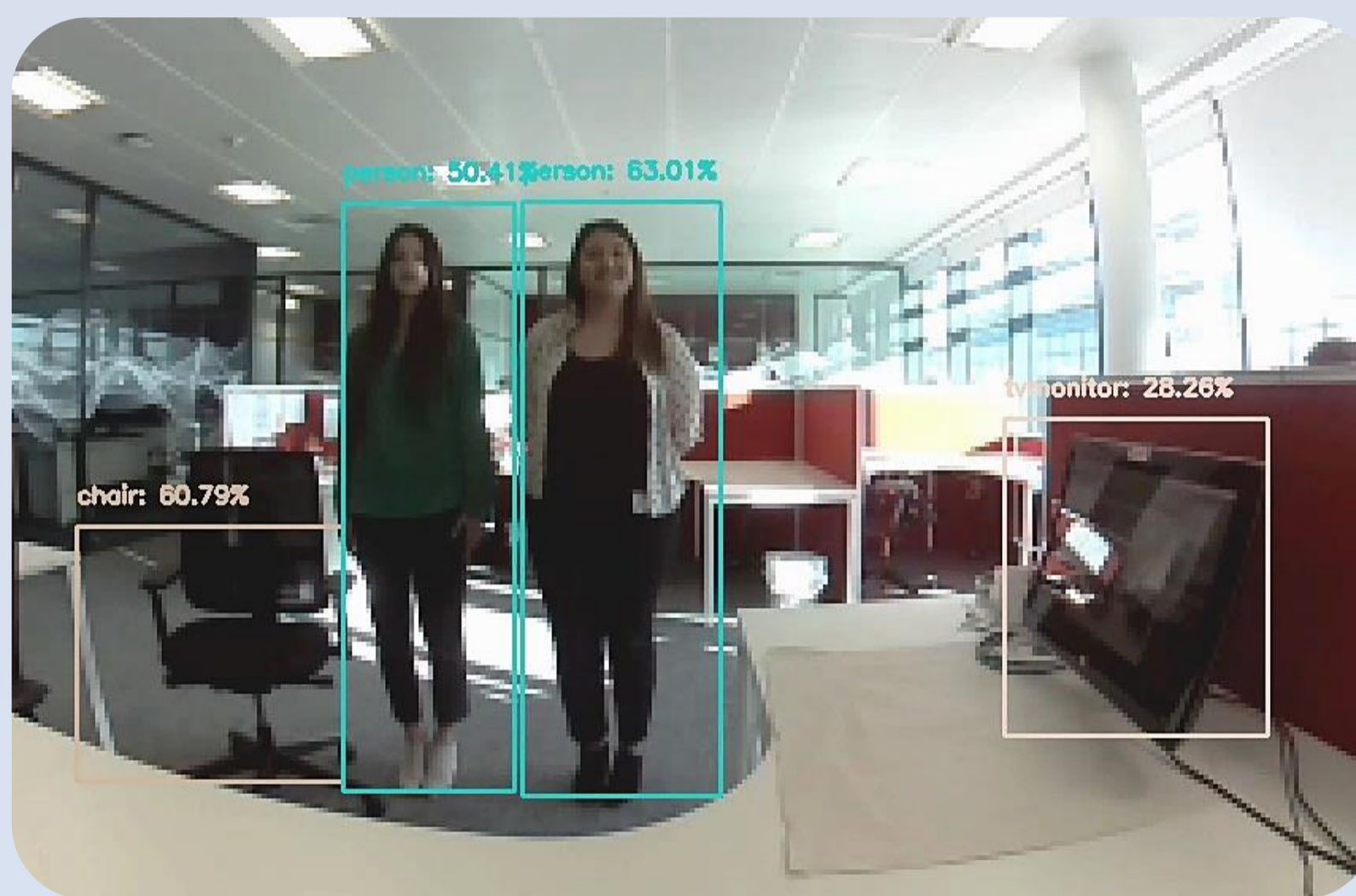
Pedestrian Detection & Object Classification running on Cadence DSPs

What am I here for?



Embedded ADAS system consisting of custom Hardware & Software:

- Fitted board, containing 4 Vision P6 DSPs
- Video-streaming subsystem
- RaspberryPi modules serving as camera inputs & WiFi Hotspot controllers



Taking a Neural Network from trained model to implementation

Oh look! There is a person...

...and another person...

...and a chair...

...and a TV monitor!

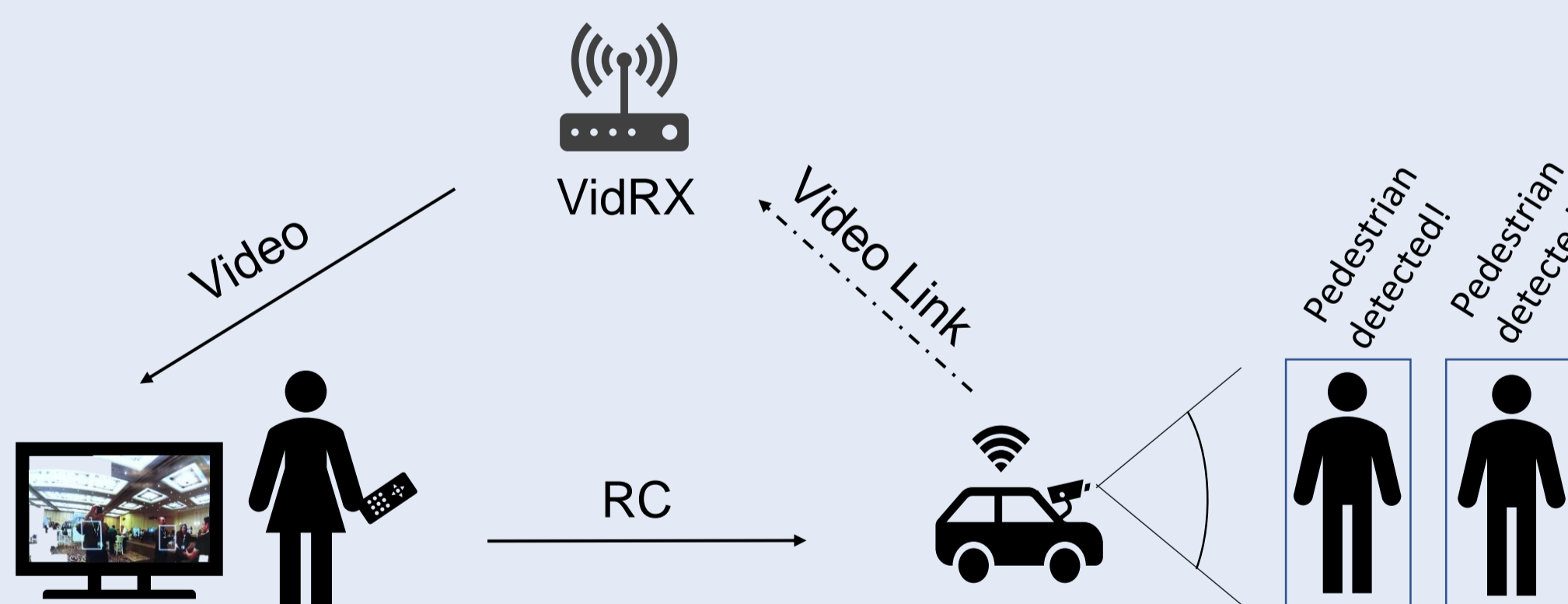


YOLOv2 Neural Network running on Vision P6 DSP:

- Object classification & labelling
- Pedestrian identification

Carrie's System Overview

- Fully mounted mobile platform
- Wireless HDMI connection that offers the user the flexibility to test the algorithms in real-time while driving the car around: The monitor shows what the car sees, even when it's in a different room!



You Only Look Once (YOLOv2)

Real-Time Object Detection: A single Neural Network is applied to the full image, which is received by the camera source while the car is being driven around. This network divides the image into regions and predicts bounding boxes and probabilities for each region.

Cadence Technology & Tools powering Carrie

