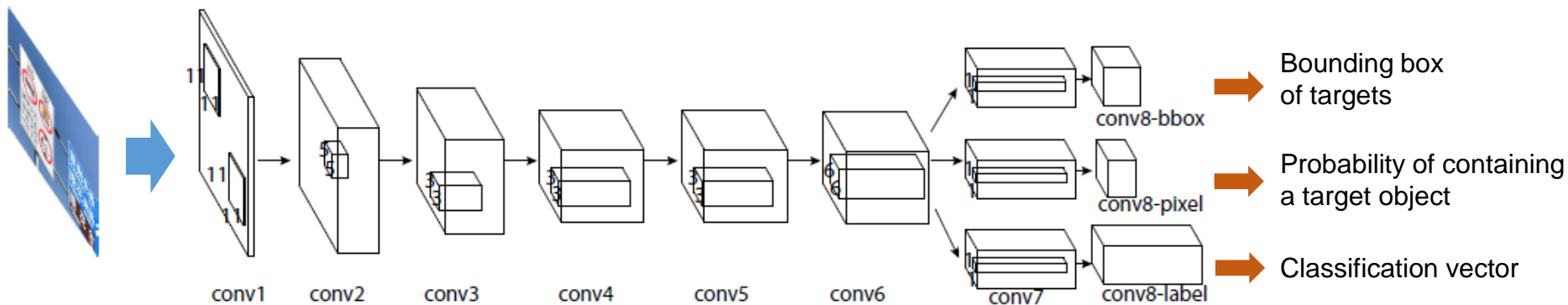


Tsinghua-Tencent 100K

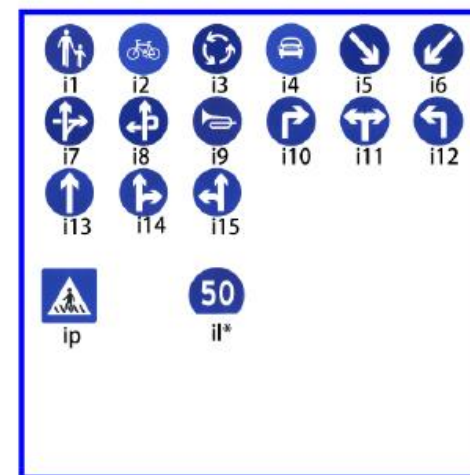
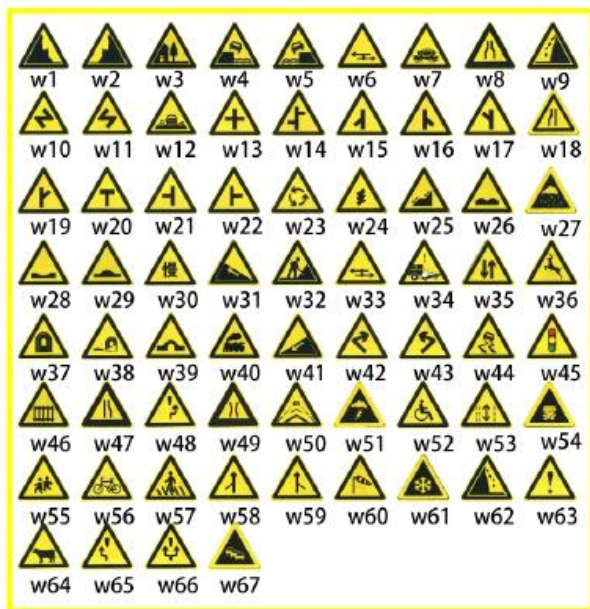
- TT100K Benchmark
 - Provides 100000 images containing 30000 traffic-sign instances.
 - Covers large variations in illuminance and weather conditions.
- TT100K Network (for Simultaneous Detection & Classification)
 - A variant of OverFeat [P. Sermanet, 2013]
 - Achieved accuracy **0.88** and recall **0.91**.
(*Fast R-CNN: accuracy **0.50** and recall **0.56**)



TT100K network

TT100K Benchmark

■ Traffic-sign classes



Signs in yellow, red and blue boxes are warning, prohibitory and mandatory signs respectively.

Each traffic-sign has a unique label. Some signs shown are representative of a family (e.g. speed limit signs for different speeds).

Such signs are generically denoted above (e.g. 'pl*'); the unique label is determined by replacing '*' by a specific value (e.g. 'pl40' for a 40 kmh speed limit sign).

TT100K Benchmark

- Annotation pipeline

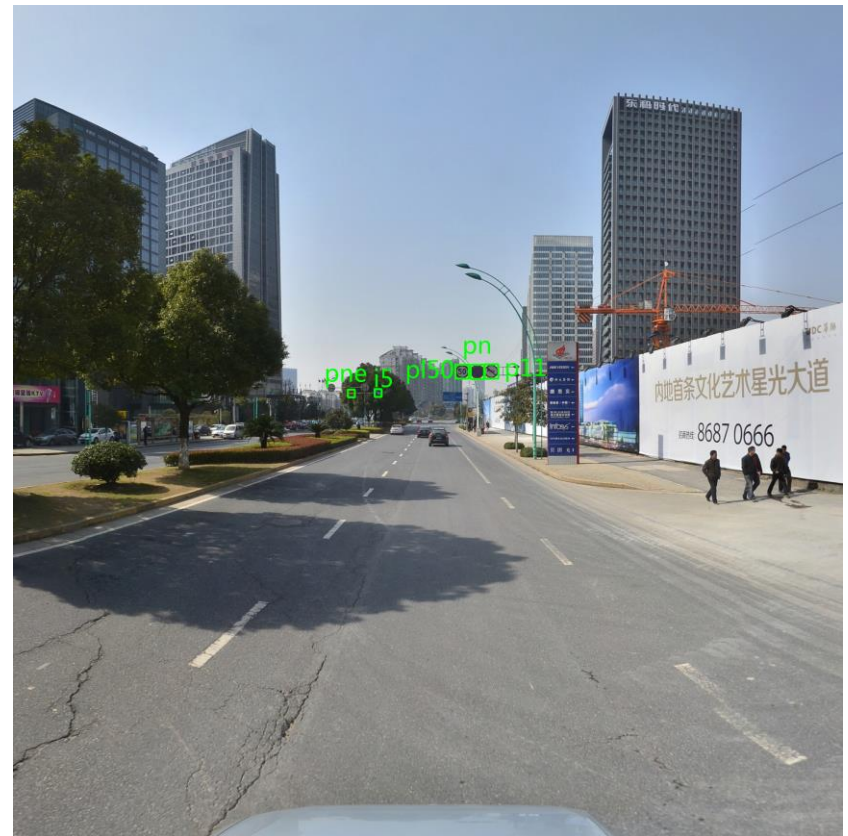
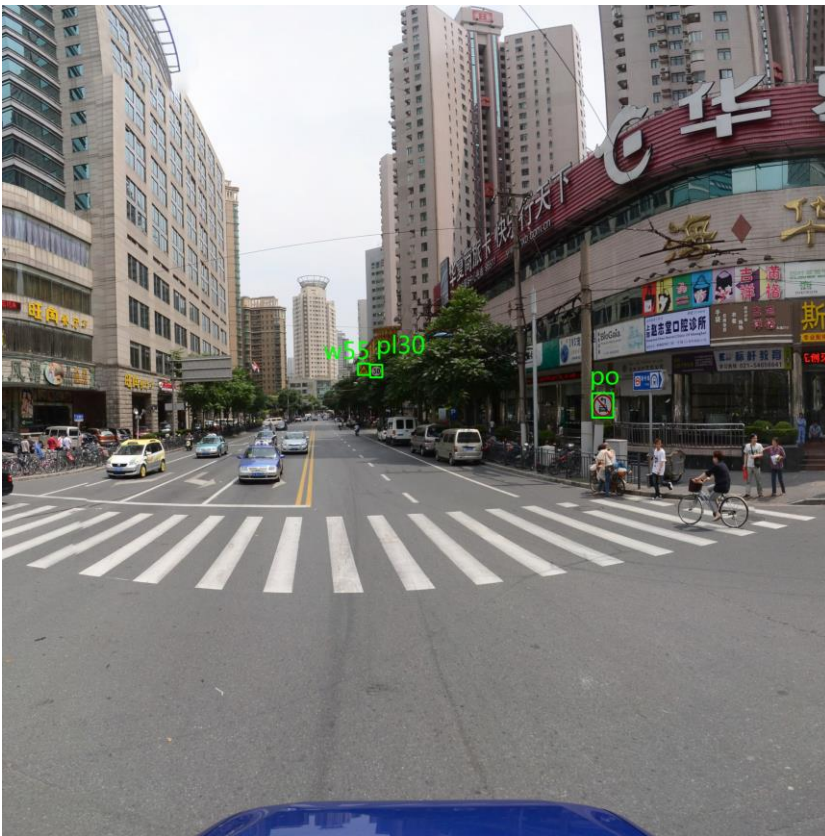


Firstly we locate the traffic-sign and draw its bounding box. Then boundary vertices are marked on the sign's contour to determine the pixel mask. Finally the class label is attached.



*Size of an input image: 2048 x 2048

Sample Results of Simultaneous Detection & Classification of Traffic Signs (2/2)



Detected sign is marked in a green rectangle with its recognized label.