G D GOENKA UNIVERSITY
FROM FOUNDATION TO FLIGHT

Fastest Real Time Object Detection - YOLOv7

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Introduction

- Realtime object detection advances with the release of YOLOv7, the latest iteration in the life cycle of YOLO model.
- The original YOLO object detector was first released in 2016. It was created by Joseph Redmon, Ali Farhadi, and Santosh Dibala.
- YOLOv7 advances in object detection by inferring more quickly and accurately than its contemporaries.
- The YOLOv7 algorithm is making big waves in the computer vision and machine learning communities.
- We train YOLOv7 only on MS COCO dataset from scratch without using any other datasets or pre-trained weights

YOLOv7 Architecture

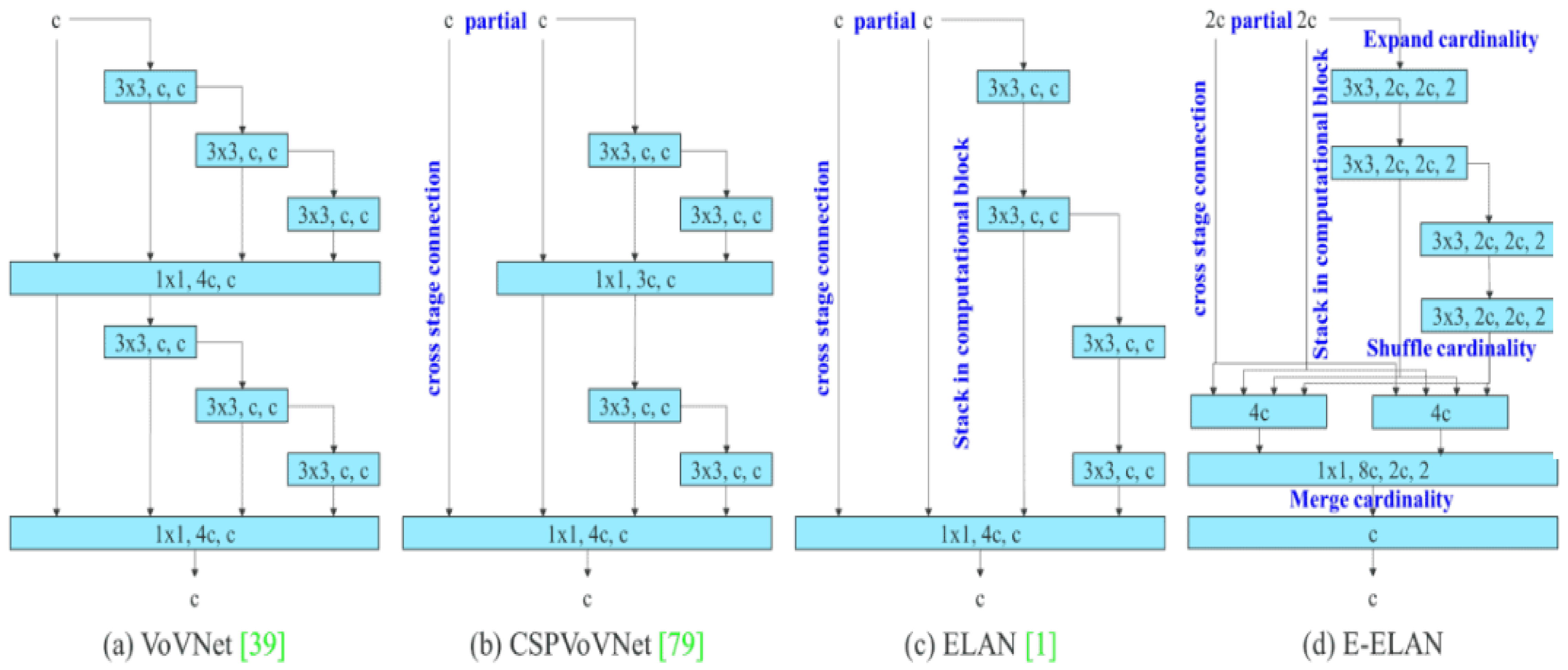


Fig: E-ELAN and previous work on maximal layer efficiency

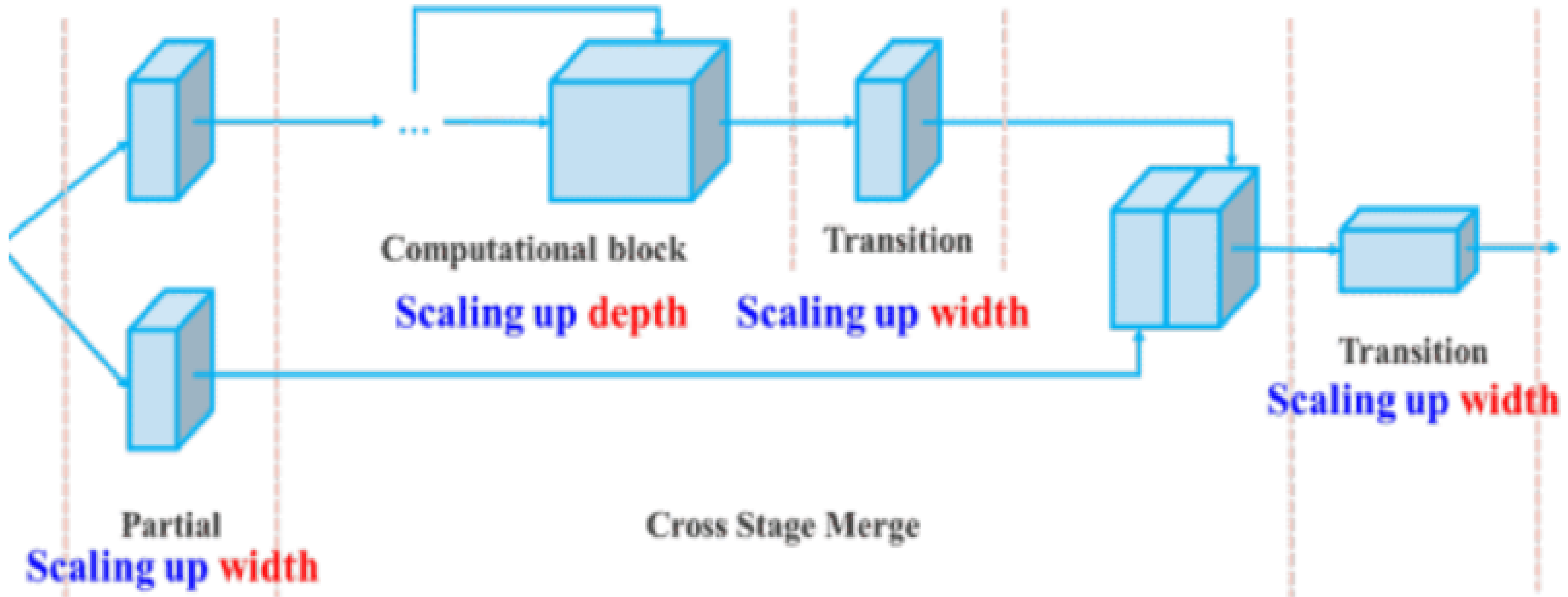
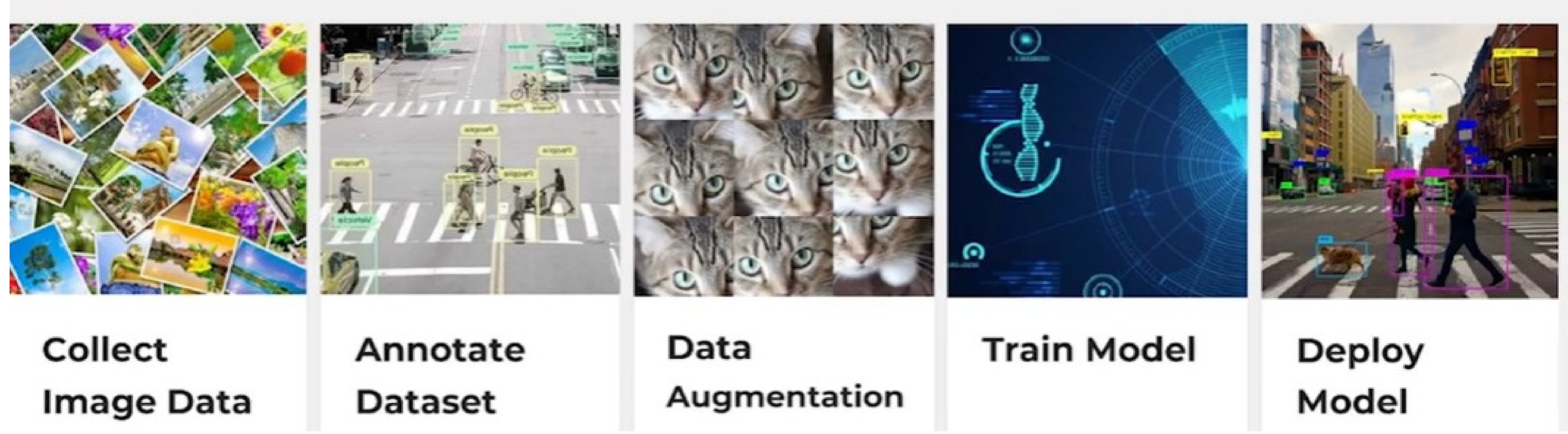
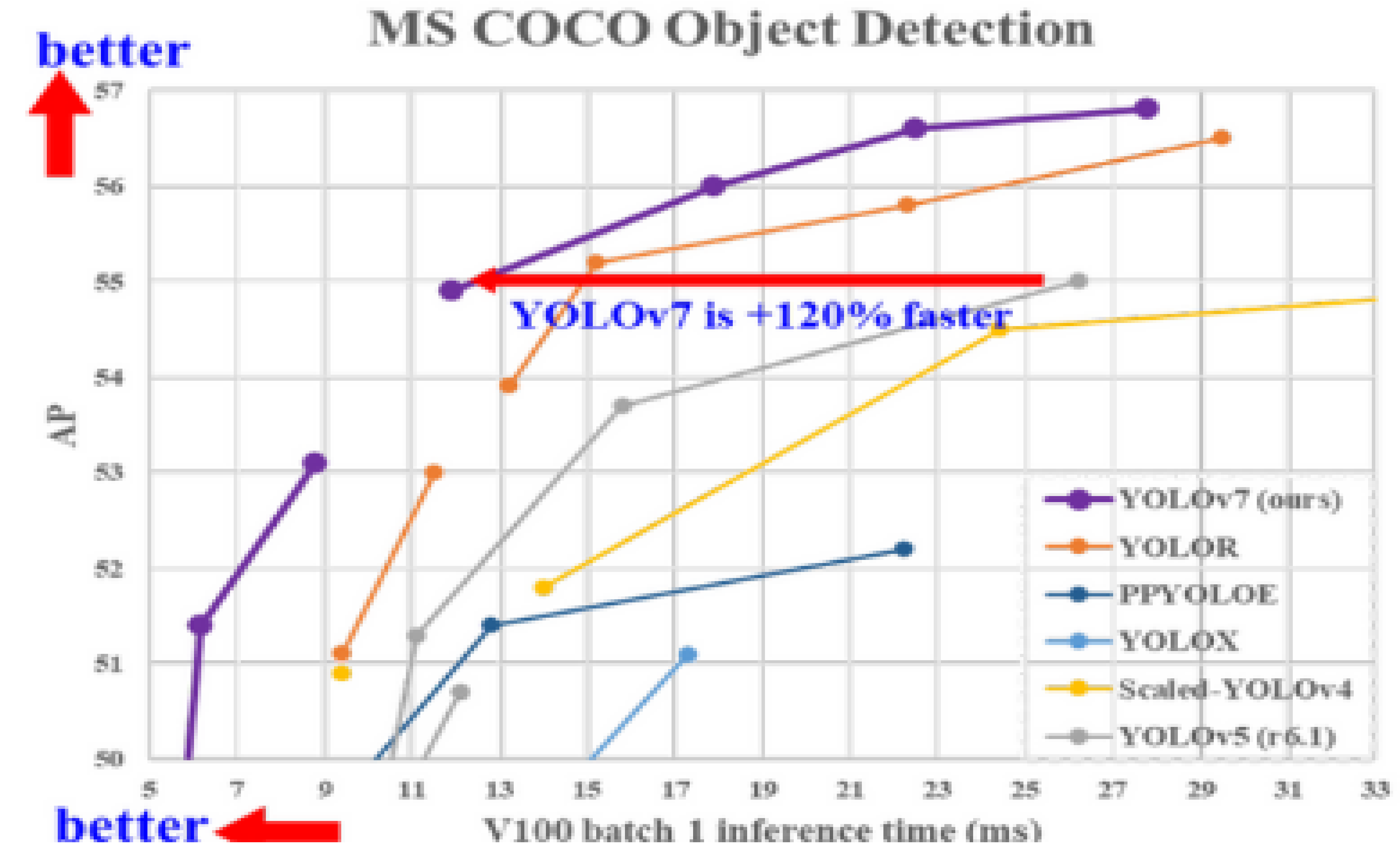


Fig: YOLOv7 compound scaling

Methodology



Experiments & Results



- YOLOv7 surpasses all known object detectors in both speed and accuracy in the range from 5 FPS to 160 FPS and has the highest accuracy 56.8% AP among all known real-time object detectors with 30 FPS or higher on GPU V100.