

Reproduction of WongKinYiu/yolov9: COCO val2017 evaluation of YOLOv9-S, M, C and E

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Independent reproduction · Artifact evaluation · Computer vision

Abstract

Evaluated the four released converted checkpoints (yolov9-s, -m, -c and -e from release v0.1) with the repository's val.py at the pinned commit on COCO val2017 (5000 images, labels from the yolov5 coco2017labels-segments archive), using the README's settings: image size 640, confidence 0.001, IoU 0.7, --save-json, with box mAP computed by pycocotools. Batch size 32, except 16 for YOLOv9-E, which does not fit in 16 GB of GPU memory at 32. Weight file SHA-256 hashes are printed in the run. The figure/folder is withheld as hash-only entries. Changes to the environment only: PyTorch 2.11 (CUDA 12.8) with TORCH_FORCE_NO_WEIGHTS_ONLY_LOAD=1 to load the pickled checkpoints, NumPy 2.3 (np.trapz) and Pillow 9.5 (FreeTypeFont.getsize), plus IPython which models/common.py imports. One NVIDIA RTX 5060 Ti.

About this record

Title, authors and abstract were provided by the authors and reviewed for completeness, not for scientific soundness. Every number in this record is copied from the signed data of the sealed reports [2], which remain authoritative.

This cover page is not signed. Check it against the SHA-256 listed at <https://kveritas.org/records/2610.00046v1>, and verify each report with its code bundle: `kveritas verify <report.pdf> --bundle <bundle.zip>`.

1 Sealed reports

The experiments were sealed with K-Veritas [1], which binds each result to the code, hardware and time that produced it.

Report	Label	Sealed	Runs	Invocations	Signer
r1 [2]	YOLOv9-S/M/C/E on COCO ...	2026-10-11	1	1	Signed by the K-Veritas server

2 Results

r1: YOLOv9-S/M/C/E on COCO val2017

Run	Metric	Final value	Step
1	yolov9_s_coco_map50_95	0.468	
1	yolov9_m_coco_map50_95	0.514	
1	yolov9_c_coco_map50_95	0.53	
1	yolov9_e_coco_map50_95	0.556	
Run	Inline claim	Value	Phase
1	yolov9_s_coco_map50_95	0.468	
1	yolov9_s_coco_map50	0.634	

Run	Inline claim	Value	Phase
1	yolov9_m_coco_map50_95	0.514	
1	yolov9_m_coco_map50	0.681	
1	yolov9_c_coco_map50_95	0.53	
1	yolov9_c_coco_map50	0.703	
1	yolov9_e_coco_map50_95	0.556	
1	yolov9_e_coco_map50	0.728	

3 Setup

Report	Item	Value
r1	Operating system	linux / amd64
r1	CPU	Intel(R) Xeon(R) W-2145 CPU @ 3.70GHz, 16 cores
r1	GPU	NVIDIA GeForce RTX 5060 Ti, 16311 MiB
r1	Memory	31.0 GB
r1	Total run time	536.2 s

4 Files

Each report and code bundle must hash to these values. A bundle belongs to the report whose signed data names its hash.

File	SHA-256	Size
r1.pdf	4bcb474defd72737c9637a9d0b600f956ef744d5a5da94876ca90b1fcc42d12f	4.7 MB
r1.kvbundle.zip	3ce346aed89bb05e97081602a0d8c66ad7fd35980ff3016a4a9b9997c18e61ab	398 KB

5 Links and licence

Paper: <https://arxiv.org/abs/2402.13616>

Reproduction of: <https://github.com/WongKinYiu/yolov9/tree/5b1ea9a8b3f0ffe4fe0e203ec6232d788bb3fcff>

Record: CC-BY 4.0. Code: GPL-3.0, as declared by the authors. Tags: object-detection, yolo, coco.

Listed, not endorsed. Review checks the artifact, never the science. Reports are never edited; changing them makes a new version. Other fields are corrected in place, and every correction is logged in metadata.yaml.

References

[1] M. K. Keita and C. Homan. Computer Science Conferences Should Require Nonrepudiable Experimental Results. NeurIPS 2026 Position Paper Track. arXiv:2605.08586.

[2] Sealed experiment report r1 (YOLOv9-S/M/C/E on COCO val2017), kv:2610.00046v1/r1. Data hash 9c3296aa8fff5c7aad23be9ab545b8b6df894c5507f876101f0dc569109aec1b.
<https://kveritas.org/records/2610.00046v1/r1.pdf>