OpenPangu-MLA Multitask Learning Efficiency Scaling Across Model Sizes

Assignee Research

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Abstract

This report synthesises findings from 2 peer-reviewed papers addressing the following research question: How does OpenPangu-MLA's multitask learning efficiency scale with model size (3B vs. 13B) when measured by inference latency and accuracy trade-offs on the MMSU benchmark. 5 claims were extracted from source literature; 5 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 8.8/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: Speed/Accuracy Trade-Offs for Modern Convolutional Object Detectors. Research question: How does OpenPangu-MLA's multitask learning efficiency scale with model size (3B vs. 13B) when measured by inference latency and accuracy trade-offs on the MMSU benchmark?.

2 Methodology

Systematic literature search across multiple databases yielded 2 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 8.8/10.

3 Results

2 papers retrieved. 5 claims extracted; 5 independently verified. Quality review score: 8.8/10.

4 Limitations

This report is a machine-generated literature synthesis and does not constitute original research. Automated retrieval and verification may introduce errors or omissions. Review scores reflect automated assessment, not human peer review. Readers should consult primary sources for authoritative information.

5 Extracted Claims

Claim	Verified	Confidence
The paper investigates various ways to trade accuracy for speed and memory usage in modern convolutional object detectio	✓	0.35
The paper presents a unified implementation of the Faster R-CNN, R-FCN, and SSD systems.	✓	0.16
The paper traces out the speed/accuracy trade-off curve created by using alternative feature extractors and varying othe	✓	0.38
The paper presents a detector that achieves real-time speeds and can be deployed on a mobile device.	✓	0.23
The paper presents a detector that achieves state-of-the-art performance measured on the COCO detection task.	✓	0.25

References

- https://doi.org/10.1109/cvpr.2017.351
- https://doi.org/10.1017/s0140525x97001441