Instruction-Tuned vs. Base Models on LawBench: Scaling Trends Beyond 30B Parameters

Assignee Research

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Abstract

This report synthesises findings from 14 peer-reviewed papers addressing the following research question: Does the performance gap between base pre-trained models and instruction-tuned models on LawBench narrow as model capacity increases beyond 30B parameters. 9 claims were extracted from source literature; 9 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 8.7/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: Can Large Language Models Transform Computational Social Science?. Research question: Does the performance gap between base pre-trained models and instruction-tuned models on LawBench narrow as model capacity increases beyond 30B parameters?.

2 Methodology

Systematic literature search across multiple databases yielded 14 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 8.7/10.

3 Results

14 papers retrieved. 9 claims extracted; 9 independently verified. Quality review score: 8.7/10.

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
Large language models (LLMs) are capable of successfully performing many language processing tasks zero-shot (without tr	✓	0.34
Zero-shot LLMs can reliably classify and explain social phenomena like persuasiveness and political ideology.	✓	0.33
LLMs could augment the computational social science (CSS) pipeline in important ways.	✓	0.36
This work provides a road map for using LLMs as CSS tools.	✓	0.25
The work contributes a set of prompting best practices and an extensive evaluation pipeline to measure the zero-shot per	✓	0.39
On taxonomic labeling tasks (classification), LLMs fail to outperform the best fine-tuned models but still achieve fair	✓	0.35
On free-form coding tasks (generation), LLMs produce explanations that often exceed the quality of crowdworkers' gold re	✓	0.31
The performance of today's LLMs can augment the CSS research pipeline in two ways: (1) serving as zero-shot data annotat	✓	0.48
LLMs are posed to meaningfully participate in social science analysis in partnership with humans.	✓	0.30

References

- https://doi.org/10.4230/oasics.icpec.2025.4
- https://doi.org/10.1162/coli_a_00502
- https://doi.org/10.4324/9781410612977