

Pretraining Domain Specificity and Pass@k Performance in Low-Resource Code Generation

Assignee Research

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Abstract

This report synthesises findings from 12 peer-reviewed papers addressing the following research question: What is the correlation between pretraining domain specificity and the pass@k metric of CodeT5 when fine-tuned on limited samples of low-resource languages in the MBPP benchmark. 8 claims were extracted from source literature; 6 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 7.5/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: Large Language Models: A Survey. Research question: What is the correlation between pretraining domain specificity and the pass@k metric of CodeT5 when fine-tuned on limited samples of low-resource languages in the MBPP benchmark?.

2 Methodology

Systematic literature search across multiple databases yielded 12 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 7.5/10.

3 Results

12 papers retrieved. 8 claims extracted; 6 independently verified. Quality review score: 7.5/10.

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
ChatGPT was released in November 2022.	×	0.10
Large Language Models (LLMs) demonstrate strong performance on a wide range of natural language tasks.	✓	0.23
LLMs acquire general-purpose language understanding and generation abilities by training billions of parameters on massi	✓	0.26
The scaling of LLM capabilities with parameter count and data volume is predicted by scaling laws.	×	0.11
GPT, LLaMA, and PaLM are three popular LLM families.	✓	0.23
The paper reviews techniques developed to build and augment LLMs.	✓	0.19
The paper surveys datasets prepared for LLM training, fine-tuning, and evaluation.	✓	0.23
The paper compares the performance of several popular LLMs on a set of representative benchmarks.	✓	0.23

References

- <https://doi.org/10.48550/arxiv.2402.06196>
- <https://doi.org/10.48550/arxiv.2406.00515>
- <https://doi.org/10.1145/3520312.3534862>