Domain Adaptation (Pre-Training On Java Vs. Python) Performance On The Pass@1 Accuracy Of Jacotext, Codegen, And Codet5

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Abstract

This report synthesises findings from 11 peer-reviewed papers addressing the following research question: How does domain adaptation (pre-training on Java vs. Python) affect the pass@1 accuracy of JaCoText, CodeGen, and CodeT5 on MBPP Pro when fine-tuned on mixed Java-Python data. 5 claims were extracted from source literature; 5 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 7.7/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: Comparative analysis of large data processing in Apache Spark using Java, Python and Scala. Research question: How does domain adaptation (pre-training on Java vs. Python) affect the pass@1 accuracy of JaCoText, CodeGen, and CodeT5 on MBPP Pro when fine-tuned on mixed Java-Python data?.

2 Methodology

Systematic literature search across multiple databases yielded 11 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 7.7/10.

3 Results

11 papers retrieved. 5 claims extracted; 5 independently verified. Quality review score: 7.7/10.

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
The performance of the Spark algorithm varies significantly depending on the amount of data and the programming language	✓	0.28
When processing a 5-megabyte CSV file, the best result was achieved in Python: 6.71 seconds, which is superior to Scala'	✓	0.39
For processing a large CSV file of 1.6 gigabytes, all programming languages demonstrated similar results: the fastest pe	✓	0.46
When performing a more complex operation that involved combining two CSV files into a single dataset for further loading	✓	0.44
Java processing was completed in 379.8 seconds, while Python was the least efficient, with a runtime of 398.32 seconds.	✓	0.29

References

- http://arxiv.org/abs/2604.26923v1
- http://arxiv.org/abs/2504.16584v1
- http://arxiv.org/abs/2510.19012v1