Multi-Agent Context Engineering Workflows and Code LLM Throughput in Niche Domains

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Abstract

This report synthesises findings from 8 peer-reviewed papers addressing the following research question: How does the integration of multi-agent context engineering workflows impact the throughput of niche domain code generation in Code LLMs, measured by tokens per second on HumanEval or MBPP benchmarks. Large Language Models (LLMs) have shown promise in automating code generation and software engineering tasks, yet they often struggle with complex, multi-file projects due to context limitations and knowledge gaps. We propose a novel context engineering workflow that combines. 0 claims were extracted from source literature; 0 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 2.8/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: Context Engineering for Multi-Agent LLM Code Assistants Using Elicit, NotebookLM, ChatGPT, and Claude Code. Research question: How does the integration of multi-agent context engineering workflows impact the throughput of niche domain code generation in Code LLMs, measured by tokens per second on HumanEval or MBPP benchmarks?.

2 Methodology

Systematic literature search across multiple databases yielded 8 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 2.8/10.

3 Results

8 papers retrieved. 0 claims extracted; 0 independently verified. Quality review score: 2.8/10.

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.

References

- http://arxiv.org/abs/2410.12381v3
- http://arxiv.org/abs/2508.08322v1
- http://arxiv.org/abs/2412.21199v2