**Project Title**: Enhancing Static Code Analysis for Bug Detection using Large Language Models (LLMs)

# Group Members:

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# Project Category :

Development

# Description:

This project aims to revolutionize static code analysis by integrating the power of Large Language Models (LLMs) to improve bug detection accuracy, reduce false positives, and identify novel vulnerabilities in code. Traditional static analysis tools rely on predefined rules and patterns, often missing context-specific bugs or emerging security threats. By leveraging LLMs like OpenAI Codex or CodeBERT, this project will enhance the understanding of source code semantics, detect hidden bugs, and provide context-aware recommendations for fixes.

Key features include an advanced bug detection engine, which integrates with existing developer workflows (IDEs, CI/CD pipelines), and a feedback loop for continuous learning. The solution will be trained on large-scale codebases with known bugs and will support multiple programming languages, offering developers a dynamic, adaptive tool for early bug identification and improved software quality.