# RiskLens – Executive Summary

Tool Name: RiskLens

One-line Summary: AI tool to detect ripple risks in code before release.

## Purpose & Problem

Modern software teams struggle to detect hidden ripple effects from code changes. Even with thorough code reviews and tests, indirect impacts often slip through, causing costly bugs.

## Solution

RiskLens leverages code analysis and GenAI (e.g., embeddings, LLMs) to highlight areas of risk triggered by code changes. It learns from previous bugs and patterns to guide QA and reviewers more effectively.

## Core Benefits

- Early risk identification  
- Improved QA and testing focus  
- Reduced production bugs and hotfixes  
- Seamless integration with Git, CI tools, and developer workflows

## Target Users

Dev teams, QA engineers, release managers, and SREs.

## Key Features

- Git-aware code change analysis  
- Vector-based code understanding  
- Feedback loop for learning over time  
- CLI, REST API, and UI support

## Architecture Snapshot

Git → Code Parser → Embedding Engine → Risk Analyzer → UI/API

## Implementation Notes

Technologies: Python, LangChain, FAISS, Docker, OpenAI or OSS LLMs

## Timeline

Month 1: POC | Month 2: Alpha | Month 3: Beta | Month 4: Production