

AI PR Review

A ServiceNow Claude Plugin

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About Me



1. Aditya Magotra — recently joined as Staff Engineer at ServiceNow
2. 14+ years of experience in software development across C#, JavaScript, and Python, building microservices and micro-frontend architectures, and designing event-driven, distributed systems
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Problem Statement

Traditional code review has several limitations -

- Human reviewers miss patterns: Same bugs slip through repeatedly
- Knowledge is siloed: Only senior developers know about past incidents
- Reviews are inconsistent: Different reviewers catch different things
- Tribal knowledge isn't captured: Lessons learned in defects are forgotten
- Code review is time-consuming, especially for geographically distributed teams.

Solution - AI PR Review Plugin

AI PR review is a Claude plugin that learns from your Git history.

It identifies defect patterns, reverted commits, and high-churn files to generate repository-specific review rules and seamlessly installs GitHub Actions workflows.

This plugin is currently in beta, and we are in the process of validating its effectiveness. So far, the results appear quite promising.

Architecture Overview

3-Tier Plugin System

Tier 1 - Marketplace

- Plugin registry and distribution
- Version management
- Location - .claude-plugin/marketplace.json

Tier 2 - Plugin

- Package container for skills
- Templates and documentation
- Configuration (plugin.json)

Tier 3 - Skill

- Execution layer
- Performs actual work
- Rule generation engine
- Github integration

Centralized Workflow Pattern

2 Level System

Level 1 – Local Workflow (Per Repo)

- Defines triggers and permissions
- Calls centralized workflow
- File location - `.github/workflows/argus-pr-review.yml`

Level 2 – Centralized Workflow (Org Wide)

- Handles authentication, rule loading, AI review
- Centralized repo
- Use by 50+ repo internally

Architecture Summary (Visual)



Architecture Advantages

Maintainability

- Clear separation of concerns
- Easy to update and extend

Flexibility

- Repository-specific customization
- Org-wide standardization
- Override mechanisms

Performance

- Parallel workflow execution
- Fast AI reviews (2-5 min)

Reliability

- Centralized workflow tested once
- Error handling built-in

Technical Stack

Core Platform

- Claude Code CLI
- Claude API / Azure AI Foundry
- GitHub Actions
- Git

Languages

- Markdown (rules, docs, prompts)
- YAML

Optional Tools

- GitHub CLI (gh)
- GitHub App (BOT)

Models

- claude-sonnet-4-5 (default)
- claude-haiku-4-5 (faster)
- claude-opus-4-5 (most capable)

Demo

Hands on

Q&A

References

- <https://github.com/anthropics/claude-plugins-official>
- <https://github.com/Head-Strong/test-pr-review>
- <https://github.com/Head-Strong/am-marketplace>
- <https://github.com/anthropics/claude-code-action>
- <https://code.claude.com/docs/en/plugins>

Thank you

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