

# CodeReview-Professional-Workflow

An **OpenEnv-based RL environment** for training LLM agents to fix code bugs  
with **evidence-driven negotiation**

Bug Detection

LLM Training

Code Review

<https://huggingface.co/spaces/100XZX001/CodeReview-Professional-Workflow>

[github.com/100XZX001/CodeReview-Professional-Workflow](https://github.com/100XZX001/CodeReview-Professional-Workflow)

# The Problem

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Today's LLMs struggle with multi-step, tool-assisted code repair that requires **evidence gathering** and human-like negotiation.

We built an environment that simulates a **professional code-review scenario** where an LLM must inspect, test, lint, query docs, propose a fix, and convince a defensive author.

The environment provides **continuous, multi-faceted rewards**, making it ideal for reinforcement learning.

# Environment at a Glance

Key features of the OpenEnv-based RL environment for code review

## 25 Realistic Bugs 5 Levels

Across 5 difficulty levels from easy to hardest, covering various bug types and complexity levels.

## Integrated Tools 3 Tools

Test runner, linter, and documentation retriever for comprehensive code analysis.

## Simulated PersonaAuthor AI

With belief tracking and push-back for realistic code review simulation.

## OpenEnv-Compliant Standard

Compliant with reset, step, state - deployable as Hugging Face Space.

25 Bugs    5 Difficulty Levels    OpenEnv Ready

Ready for RL Training