MLOps: Takehome Assessment

CloudBees MLOps Engineer Take-Home Assessment

Timebox: ~1 hour
Tools: You may (and are encouraged to) use a coding assistant (e.g., GitHub Copilot, ChatGPT, etc.) during this exercise. In the interview, we'll ask you to share your experience of using the assistant: what worked, what didn't, and where it helped or hindered.

Objective

This exercise is designed to be a conversation driver in the hiring process and CloudBees has a remote work posture so we have to drive change sometimes through written word:

- Work with ML lifecycle tooling.
- Build and reason about reproducible ML workflows.
- Apply MLOps best practices around pipeline design, deployment, and observability.

Instructions

1. **Choose an Open Source Project**
   Select an open-source project you can make some changes to.

    - Fork/clone the repo locally.
    - Work within a contained directory or branch for this task.

2. **Task: Extend or Automate Part of a Workflow**
   Implement a **small extension or automation** relevant to the MLOps lifecycle.
   Examples include (pick one you feel comfortable with):

    - Add a simple ML pipeline step (e.g., preprocessing, evaluation, or monitoring hook).
    - Automate versioning or artifact logging for an existing training script.

- Wrap an existing model with a deployment-ready API (e.g., FastAPI + Docker).
- Add observability/metrics tracking to a training or inference workflow.

3. **Deliverables**
   Please provide:

   - **Code**: Your implementation (can be a script, pipeline file, or notebook).

   - **README.md**: Short explanation (1–2 paragraphs) describing:

     - What you chose to implement and why.
     - How to run your code.
     - Any assumptions or limitations.

   - **Reflection (5–10 sentences)**: Share your experience using a coding assistant. Specifically:

     - Did it help you move faster?
     - Did it generate incorrect or surprising suggestions?
     - Where was it most/least useful?

Submission

Share a link (https://github.com/jburtbee) to your forked repo/branch and send it back prior to the next interview session.

✅ **Tip:** Keep the scope small and focused—you only need to show something end-to-end, not build a production system.