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Build AI Evals Before You Trust the Demo

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A demo is an anecdote

AI systems can look brilliant on five handpicked examples and fail on the messy cases that matter in production. An evaluation, or eval, is a repeatable way to test performance against representative tasks and explicit success criteria. OpenAI's evaluation guidance emphasizes defining objectives, collecting a dataset, defining metrics and running continuous evaluation. The business lesson is simple: if you cannot say what 'good' means, you cannot know whether a new model, prompt or agent actually improved the product. For a Black founder spending scarce capital, disciplined evals can prevent expensive deployment mistakes and give enterprise buyers evidence beyond a slick demo.

Build the test set from the real workflow

Start with 30 to 100 examples drawn from the work the system will actually perform. Include ordinary cases, edge cases and known failure modes. If the product summarizes contracts, include short agreements, long agreements, missing clauses, contradictory clauses and scanned text. If it answers customer questions, include ambiguous requests, angry customers, unsupported claims and questions the system should refuse or escalate. Label what a successful response must contain and what would make the answer unacceptable. The dataset should represent the customer environment, not the prompts your team knows the model handles well.

Measure more than answer quality

A useful AI product has at least four dimensions: quality, safety, latency and cost. A model that improves answer quality by two points but triples latency and cost may weaken the business. Track cost per successful task rather than token price alone. Track human-review rate if people must correct outputs. Track refusal or escalation behavior for high-risk cases. For structured workflows, measure exact fields, schema validity and downstream errors. For subjective work, combine clear rubrics with human review and, where appropriate, model-based graders that have themselves been calibrated against human judgments.

Regression testing turns AI changes into engineering

Model providers update models. Prompts change. Retrieval indexes grow. Tool schemas evolve. Any of those changes can fix one class of errors and create another. Keep a stable regression set of critical examples and rerun it before shipping a change. Compare old versus new results using the same rubric. Add every serious production failure back into the test set after removing sensitive information. Over time, the evaluation suite becomes institutional memory. It stops the team from rediscovering the same failure six months later.

Use evals as a sales and career advantage

Enterprise buyers increasingly want to know how an AI vendor measures accuracy, hallucination, security and control. A founder who can show an evaluation methodology, representative test categories and known limitations sounds more credible than one claiming '95 percent accurate' without context. The same capability is valuable for consultants and employees. Being able to design an eval set, define a rubric, analyze failures and recommend model or workflow changes is a more durable skill than memorizing prompt tricks. It connects AI experimentation to quality assurance and business risk.

The two-week evaluation sprint

Days 1–2: define one AI task and three failure types that would damage the customer. Days 3–5: collect at least 30 representative examples and write a pass rubric. Days 6–8: run the current system and record quality, cost, latency and escalation. Days 9–10: categorize failures by cause—prompt, missing context, model limitation, tool failure or unclear business rule. Days 11–12: change one thing at a time and rerun the same set. Days 13–14: document the baseline and decide the deployment threshold. Do not ship because the demo felt impressive; ship because the measured failure rate is acceptable for the actual use.

Build an eval scorecard the business can read

Create one page that executives, product staff and engineers can all understand. Rows should include task success rate, severe-error rate, unsupported-claim rate where relevant, schema or tool-call validity, human-escalation rate, median latency, 95th-percentile latency, average cost per attempt and cost per successful task. Add business metrics such as minutes saved, conversion lift or case throughput only when you have a credible measurement. For each metric, define the dataset, evaluator and threshold. Then create a red-zone list: failures that are unacceptable even if average quality is high, such as exposing private data, sending an unauthorized message, inventing a legal citation or approving a refund beyond policy. Segment results by hard cohorts—long documents, non-native English, unusual file formats, new customers or sensitive categories—because a good aggregate score can hide a disastrous subgroup. Keep examples of both passes and failures beside the numbers so stakeholders understand what a five-point score means in practice. Finally, record the model, prompt, retrieval index and tool versions tested. This scorecard becomes the release gate. A proposed change ships only if it improves the target metric without crossing a red-zone threshold or creating unacceptable cost and latency. That is how an AI product moves from demo culture to operational discipline.

SOURCE DESK

Research behind this guide

Use the primary sources below to verify current rules, eligibility and program details before acting. Program terms can change.

OpenAI — Evaluation best practices



OpenAI — Evals documentation



NIST — AI Risk Management Framework



Google Cloud — Evaluate generative AI models



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