

How Harvey Built Reliable AI Agents with LangSmith & Custom Tools

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Ben Liebald, who leads engineering at Harvey, discusses how they build and evaluate domain-specific AI for legal and professional services. He shares Harvey's approach to creating reliable AI systems through lawyer-in-the-loop development, human preference evaluations, and automated assessment tools including LangSmith. Liebald explains their methodology for building complex legal workflows and agents that can handle tasks like document analysis, drafting, and multi-step legal processes.

Run of Show



- 01 Harvey, an Introduction
- 02 Quality in legal, and why it's difficult
- 03 How we build products
- 04 How we do evals
- 05 Learnings & hot takes



H | Part 1

Harvey, an introduction

Professional Class AI

Domain-specific AI for law firms, professional service providers, and the Fortune 500.

Assist

Search, analyze, or understand material, then ask follow-up questions.

Summarize the operating AavantiBio's General Cou

Merger Agreement.doc

Vault

Upload, store, and analyze thousands of documents.

Name	Parties

Draft

Generate & revise detailed long-form content like briefs, contracts, contractual provisions, and more.

The Seller shall deliver the Products to the Buyer **F&B (Free on Board)** Ex Works at the Seller's facility.

Show edits

Agents & Workflows

Leverage domain-specific agents for complex work.

Company Profile

Redline Issues List

Support Argum

Reps & Warranties

Draft Client Alert

Credit Agreement

Document summarization & drafting

Assistant /

Complaint Analysis and Claim Summary

Assist · 1 source · Created Feb 4, 2025

+ New thread

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Summary of Claims Against the Defendant

The First Amended Complaint filed by Antonietta Zappier against Project Veritas, S2 HR Solutions 1A, LLC (d/b/a Engage PEO LLC), and Michael Spadone alleges multiple claims of employment discrimination, sexual harassment, and retaliation. ¹ Below is a detailed analysis of each claim, including the elements of the claim and the facts supporting each element.

1. Title VII of the Civil Rights Act of 1964 - Gender Discrimination

Elements:

- The plaintiff belongs to a protected class.
- The plaintiff was qualified for the position.
- The plaintiff suffered an adverse employment action.
- The adverse action occurred under circumstances giving rise to an inference of discrimination.

Supporting Facts:

- **Protected Class:** Plaintiff, Antonietta Zappier, is a woman.
- **Qualified for the Position:** Zappier was employed as an Administrative Assistant and received positive employment evaluations and a raise. ²
- **Adverse Employment Action:** Zappier was terminated from her position.
- **Inference of Discrimination:** Zappier alleges a sexually hostile work environment, including sexual harassment by Michael Spadone, and claims she was terminated for rejecting Spadone's sexual advances.

2. New York State Human Rights Law (NYSHRL) - Gender Discrimination

Elements:

- The plaintiff belongs to a protected class.

Sources

gov.uscourts.nysd.584366.5.0_1.pdf

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26

Large-scale document analysis

Illustrative example use case:
Analyze a set of contracts for
potential contractual risks

Vault / Commercial Contracts / Queries /

Force Majeure Clause in Commercial Contracts Review

102 documents · 41,000 columns remaining · Created by emmagharvey.ai · Answered 2:57 PM

Filter

Add file

Column builder

Name

IT

Presence of Force Majeure Clause

Add column

9 documents

1 Agilent Supply Agreement.pdf Yes

2 AIG License Agreement.pdf No

3 Alcoa License Agreement.pdf No

4 Alumina Purchase Agreement.pdf Yes

5 AMD Waiver Supply Agreement.pdf Yes

6 American Accessories Supply Agre... Yes

7 Aquametalis Supply Agreement.pdf No

8 Arko Corp Master Supply Agree... Yes

9 AT&T MobilTV Developer License A... No

93 documents

10 Baker Hughes Supply Agreement.pdf Yes

11 Belling Brands Supply Agreement... Yes

12 Beyond Meat Master Supply Agree... Yes

13 Bluejay Supply Agreement.pdf Yes

14 Ceresia License Agreement.pdf No

Large-scale document analysis

Illustrative example use case:
Analyze a set of contracts for
potential contractual risks

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Column builder

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Presence of Force Majeure Clause

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Untitled

Create column

Get started by asking Harvey a question.

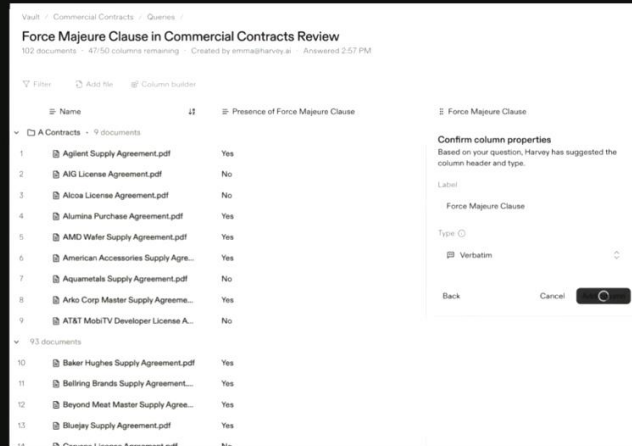
What is the exact Force

Cancel

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Large-scale document analysis

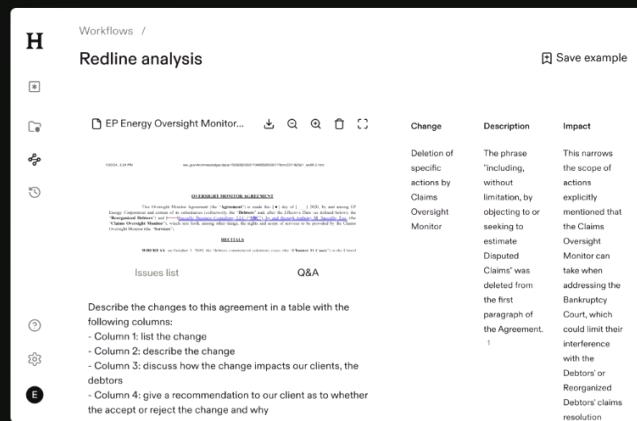
Illustrative example use case:
Analyze a set of contracts for
potential contractual risks



Workflows

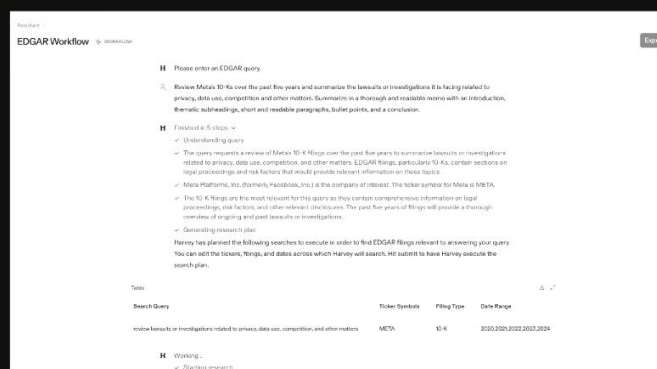
Multi-step flows

Produce complex work output

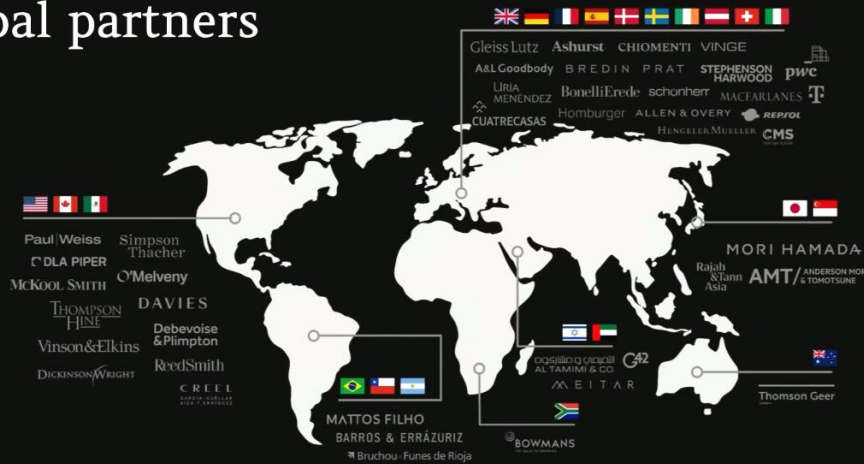


Towards agentic systems

- Multi-step agentic search
- Nudges & Clarifying questions
- Personalization & Memory
- Long-running tasks



Global partners



H | Part 2

Quality, and why it's difficult

Complex documents

ARTICLE I	
DEFINED TERMS	
Section 1.1.	Definitions. The following defined terms used in this Agreement shall have the meanings specified below:
<p>"Act" means the Delaware Revised Uniform Limited Partnership Act, as it may be amended from time to time.</p> <p>"Additional Funds" has the meaning set forth in Section 4.4.</p> <p>"Additional Securities" means any additional REIT Shares (other than REIT Shares issued in connection with a redemption pursuant to Section 8.5) or rights, options, warrants or convertible</p>	
24006714184-v11	80-41019056
<p>or exchangeable securities containing the right to subscribe for or purchase REIT Shares, as set forth in Section 4.3(a)(iii).</p> <p>"Administrative Expenses" means (i) all administrative and operating costs and expenses incurred by the Partnership and its Subsidiaries, (ii) those administrative costs and expenses of the General Partner, including any salaries or other payments to directors, officers or employees of the General Partner, and any accounting and legal expenses of the General Partner, which expenses are expenses of the Partnership and not the General Partner, and (iii) to the extent not included in clause (ii) above, REIT Expenses, provided, however, that Administrative Expenses shall not include any administrative costs and expenses incurred by the General Partner that are attributable to assets that are not owned directly or indirectly by the Partnership.</p>	

Complex outputs

H

Assistant /

Table Summarizing Key Arguments

Assist · Q-Files · 1 source · Created Apr 11, 2025

Generate a table summarizing the key arguments in this motion to dismiss covering the key arguments and critically evaluate the persuasiveness of the argument with a letter grade and a detailed explanation.

Copy

Save prompt

Edit query

H

Working...

Summary of Key Arguments in OpenAI's Motion to Dismiss

Table

Key Argument	Summary	Persuasiveness Grade	Explanation
Vicarious Copyright Infringement	Plaintiffs fail to allege direct infringement, the right and ability to supervise, and a direct financial interest.	A	The argument is strong because it highlights the proving direct infringement and the specific requirement of vicarious liability, which Plaintiffs did not adequately establish. The reliance on established legal standards and precedents makes this argument highly persuasive.
DMCA Section 502(b)(1) Violation	Plaintiffs do not plausibly allege that any CTR was removed during the training process, nor do they plead facts sufficient to infer intent to conceal infringement.	B+	This argument is quite persuasive as it points out specific allegations and factual support for the claim that the removal was intentional.

Working...

Verification is key

1. Failure to Fund Loans

- The lender fails to fund any portion of its Loans (other than at the direction or request of any regulatory authority) within three Business Days of the date required to be funded by it under the Agreement. ¹

2. Notification of Intent Not to Fund

- The lender notifies the Borrower of its funding obligations under the Agreement generally under other agreements.

3. Failure to Confirm Funding Obligations

- The lender fails, within three Business Days of the Agreement relating to its obligations to fund this clause upon providing such

GE - Credit Agreement.pdf

reasonably determined by the Administrative Agent, that has (a) failed to fund any portion of its Loans (other than at the direction or request of any regulatory authority) within three Business Days of the date required to be funded by it hereunder, (b) notified the Borrower, the Administrative Agent or any Lender in writing that it does not intend to comply with any of its 1/15/24, 4:34 PM Exhibit <https://www.sec.gov/Archives/edgar/data/40545/000004054518000061/gesyn-dicatedcreditagreemen.htm> 8/54 funding obligations under this Agreement or has made a public statement to the effect that it does not intend to comply with its funding obligations under this Agreement or generally under other agreements in which it commits to extend credit, (c) failed, within three Business Days after request by the Administrative Agent, to confirm that it will comply with the terms of this Agreement relating to its obligations to fund...

View reference →

Quality is nuanced & subjective

Q Is there a materiality scrape with respect to indemnification, if so, does it apply to determining whether there was a breach, determining the amount of damages, or both?

Copy Save prompt

H Materiality Scrape in Indemnification

Existence of Materiality Scrape: Yes, there is a materiality scrape with respect to indemnification in the Agreement and Plan of Merger between Solid Biosciences Inc., Greenland Merger Sub LLC, and AvantBio, Inc. ¹

Application of Materiality Scrape: The materiality scrape applies to determining the amount of damages for which any Parent Indemnified Party may be entitled to indemnification under Article VII. ² Specifically, for purposes of determining the amount of Damages, each representation or warranty (other than the representations and warranties set forth in clause (a) of Section 3.6) shall be deemed to have been made without any qualifications or limitations as to materiality (including any qualifications or limitations made by reference to a Company Material Adverse Effect or Parent Material Adverse Effect). ³

Relevant Section: The relevant section of the Agreement states: "Notwithstanding anything to the contrary in this Agreement, for purposes of determining the amount of Damages for which any Parent Indemnified Party may be entitled to indemnification under this Article VII (but not for purposes of determining whether there has been a breach of any representation or warranty set forth in Article III), each such representation or warranty (other than the representations and warranties set forth in clause (a) of Section 3.6) shall be deemed to have been made without any qualifications or limitations as to materiality (including any qualifications or limitations made by reference to a Company Material Adverse Effect or Parent Material Adverse Effect, as applicable)." ⁴

Summary: The materiality scrape in the Agreement applies solely to the determination of the amount of damages and not to the determination of whether there has been a breach of any representation or warranty.

Q Is there a materiality scrape with respect to indemnification, if so, does it apply to determining whether there was a breach, determining the amount of damages, or both?

Copy

H Materiality Scrape in Indemnification Provisions

The Agreement and Plan of Merger between Solid Biosciences Inc., Greenland Merger Sub LLC, and AvantBio, Inc. contains a materiality scrape with respect to indemnification. ¹ The relevant provision is found in Section 7.5(b).

"Notwithstanding anything to the contrary in this Agreement, for purposes of determining the amount of Damages for which any Parent Indemnified Party may be entitled to indemnification under this Article VII (but not for purposes of determining whether there has been a breach of any representation or warranty set forth in Article III), each such representation or warranty (other than the representations and warranties set forth in clause (a) of Section 3.6) shall be deemed to have been made without any qualifications or limitations as to materiality (including any qualifications or limitations made by reference to a Company Material Adverse Effect or Parent Material Adverse Effect, as applicable)." (Section 7.5(b), emphasis added). ²

Application of the Materiality Scrape

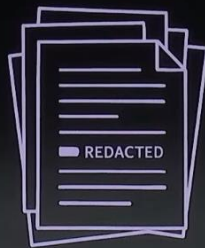
Determining Whether There Was a Breach

The materiality scrape does not apply to the determination of whether there was a breach. The language explicitly states that the materiality scrape is not used "for purposes of determining whether there has been a breach of any representation or warranty set forth in Article III."

Determining the Amount of Damages

The materiality scrape does apply to the calculation of damages. For the purpose of determining the amount of Damages for which indemnification may be sought, all materiality qualifiers (including "material," "Company Material Adverse Effect," etc.) are disregarded, except as otherwise specified (e.g., clause (a) of Section 3.6).

Confidentiality & privacy



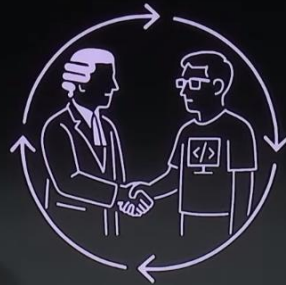
H | Part 3

How we build products

1. Applied AI = AI + UI

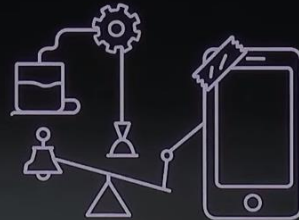


2. “Lawyer in the loop”



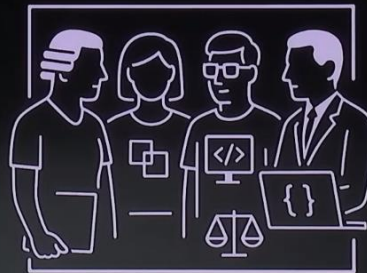
3. Prototype over PRD

A prototype is worth a thousand words. The quicker we can turn ideas into prototypes, the quicker we can iterate and learn.



Example: workflow development

- Initial context
- Collect datasets
- Prompting & algorithm
- Evaluation & iteration



Evaluation principles

- Human preferences
- Auto-evals
- Breaking the problem down

Human preference ratings (SxS)

Query

Write an outline of all hearsay exemptions based on the federal rules of evidence. Under each rule, provide: (1) how often a lawyer can expect the exemption to arise in trial; and (2) an example.

Next incomplete < Previous 1 of 47 Next >

Model Responses

Response 1

Okay, here is an outline of the hearsay exceptions under the Federal Rules of Evidence (FRE), including an assessment of how frequently each might arise in trial practice and a corresponding example.

Hearsay, defined under FRE 801(c), is an out-of-court statement offered in evidence to prove the truth of the matter asserted in the statement. Under FRE 802, hearsay is generally inadmissible unless an exception provided by federal statute, the Federal Rules of Evidence, or other rules prescribed by the Supreme Court applies. The following outlines the primary categories and specific rules that allow for the admission of statements that would otherwise be excluded as hearsay.

Response 2

Certainly! Below is a comprehensive outline of the primary hearsay exemptions under the Federal Rules of Evidence (FRE), specifically Rules 801(d)(1) and 801(d)(2). These are statements that are defined as "not hearsay" under the rules. Note that hearsay exceptions (Rules 803, 804, and 807) apply even if the statement is hearsay, but exemptions under 801(d) mean the statement is not hearsay at all.

I. Statements That Are Not Hearsay (Hearsay Exemptions) - FRE 801(d)

Auto-eval

Benchmarks that are representative of real-world complexity.

LegalBench

"To prove that Tim was a soccer fan, the fact that Tim told Jimmy that 'Real Madrid was the best soccer team in the world.' Is there hearsay?"

(simple, deterministic)

BigLaw Bench

"Analyze these trial documents and draft an analysis of conflicts, gaps, contradictions, or ambiguities, including a detailed chronology of events and analysis results"

(complex, subjective)

BigLaw Bench Evaluation Rubrics

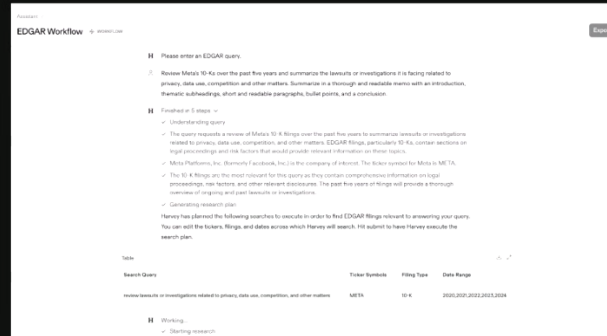
- Structure
- Style
- Substance
- Hallucinations

Breaking the problem down

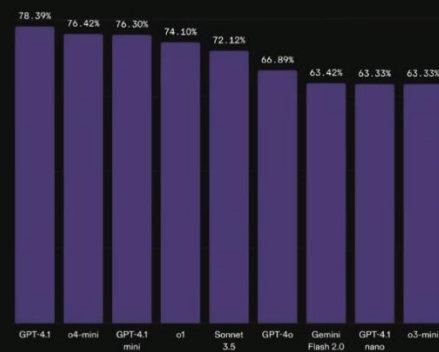
Example: RAG-driven QA over large corpus

1. Rewrite query
2. Find matching chunks & docs
3. Generate answer
4. Generate citations.

Separately evaluate each step.

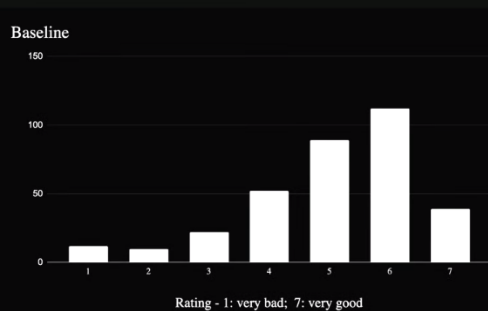


Example: Updating to GPT 4.1

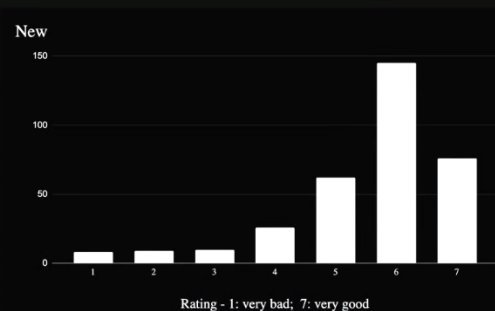


All results are based on the relevant foundation model optimized for use in Harvey's platform

Example: updating to GPT 4.1




Rating - 1: very bad; 7: very good



Rating - 1: very bad; 7: very good



H | Part 5
Learnings & hot takes



1. Sharpen your axe



2. Evals matter. But taste does, too!



3. The most important data doesn't exist yet