

California

Official source for Rules of Professional Conduct:

<https://www.calbar.ca.gov/Attorneys/Conduct-Discipline/Rules/Rules-of-Professional-Conduct>

ABA Model Rule	Topic	California Rule (clickable link)
ABA Model Rule 1.1	Competence	Rule 1.1
ABA Model Rule 1.4	Client Communication	Rule 1.4
ABA Model Rule 1.5	Fees	Rule 1.5
ABA Model Rule 1.6	Confidentiality	Rule 1.6
ABA Model Rule 1.7	Conflicts of Interest	Rule 1.7
ABA Model Rule 3.3	Candor to the Tribunal	Rule 3.3
ABA Model Rule 5.1	Responsibilities of Supervisory Lawyers	Rule 5.1
ABA Model Rule 5.3	Nonlawyer Assistance	Rule 5.3

Colorado

Official source for Rules of Professional Conduct:

<https://www.cobar.org/rulesofprofessionalconduct>

ABA Model Rule	Topic	Colorado Rule (clickable link)
ABA Model Rule 1.1	Competence	Colo. RPC 1.1
ABA Model Rule 1.4	Client Communication	Colo. RPC 1.4
ABA Model Rule 1.5	Fees	Colo. RPC 1.5
ABA Model Rule 1.6	Confidentiality	Colo. RPC 1.6
ABA Model Rule 1.7	Conflicts of Interest	Colo. RPC 1.7
ABA Model Rule 3.3	Candor to the Tribunal	Colo. RPC 3.3
ABA Model Rule 5.1	Responsibilities of Supervisory Lawyers	Colo. RPC 5.1
ABA Model Rule 5.3	Nonlawyer Assistance	Colo. RPC 5.3

Florida

Official source for Rules of Professional Conduct:

<https://www.floridabar.org/rules/rtrfb/>

ABA Model Rule	Topic	Florida Rule (clickable link)
ABA Model Rule 1.1	Competence	Rule 4-1.1
ABA Model Rule 1.4	Client Communication	Rule 4-1.4
ABA Model Rule 1.5	Fees	Rule 4-1.5
ABA Model Rule 1.6	Confidentiality	Rule 4-1.6
ABA Model Rule 1.7	Conflicts of Interest	Rule 4-1.7
ABA Model Rule 3.3	Candor to the Tribunal	Rule 4-3.3
ABA Model Rule 5.1	Responsibilities of Supervisory Lawyers	Rule 4-5.1
ABA Model Rule 5.3	Nonlawyer Assistance	Rule 4-5.3

Georgia

Official source for Rules of Professional Conduct:

<https://www.gabar.org/general-counsel/georgia-rules-of-professional-conduct>

ABA Model Rule	Topic	Georgia Rule (clickable link)
ABA Model Rule 1.1	Competence	Rule 1.1
ABA Model Rule 1.4	Client Communication	Rule 1.4
ABA Model Rule 1.5	Fees	Rule 1.5
ABA Model Rule 1.6	Confidentiality	Rule 1.6
ABA Model Rule 1.7	Conflicts of Interest	Rule 1.7
ABA Model Rule 3.3	Candor to the Tribunal	Rule 3.3
ABA Model Rule 5.1	Responsibilities of Supervisory Lawyers	Rule 5.1
ABA Model Rule 5.3	Nonlawyer Assistance	Rule 5.3

Illinois

Official source for Rules of Professional Conduct:

<https://www.iardc.org/Home/Rules>

ABA Model Rule	Topic	Illinois Rule (clickable link)
ABA Model Rule 1.1	Competence	IRPC 1.1
ABA Model Rule 1.4	Client Communication	IRPC 1.4
ABA Model Rule 1.5	Fees	IRPC 1.5
ABA Model Rule 1.6	Confidentiality	IRPC 1.6
ABA Model Rule 1.7	Conflicts of Interest	IRPC 1.7
ABA Model Rule 3.3	Candor to the Tribunal	IRPC 3.3
ABA Model Rule 5.1	Responsibilities of Supervisory Lawyers	IRPC 5.1
ABA Model Rule 5.3	Nonlawyer Assistance	IRPC 5.3

Iowa

Official source for Rules of Professional Conduct:

<https://www.iowacourts.gov/opr/attorneys/attorney-discipline/what-rules-govern-lawyer-conduct-in-iowa>

ABA Model Rule	Topic	Iowa Rule (clickable link)
ABA Model Rule 1.1	Competence	Iowa R. Prof. Conduct 32:1.1
ABA Model Rule 1.4	Client Communication	Iowa R. Prof. Conduct 32:1.4
ABA Model Rule 1.5	Fees	Iowa R. Prof. Conduct 32:1.5
ABA Model Rule 1.6	Confidentiality	Iowa R. Prof. Conduct 32:1.6
ABA Model Rule 1.7	Conflicts of Interest	Iowa R. Prof. Conduct 32:1.7
ABA Model Rule 3.3	Candor to the Tribunal	Iowa R. Prof. Conduct 32:3.3
ABA Model Rule 5.1	Responsibilities of Supervisory Lawyers	Iowa R. Prof. Conduct 32:5.1
ABA Model Rule 5.3	Nonlawyer Assistance	Iowa R. Prof. Conduct 32:5.3

Kansas

Official source for Rules of Professional Conduct:

<https://www.kscourts.gov/Rules-Orders/Rules/Rule-240>

ABA Model Rule	Topic	Kansas Rule (clickable link)
ABA Model Rule 1.1	Competence	KRPC 1.1
ABA Model Rule 1.4	Client Communication	KRPC 1.4
ABA Model Rule 1.5	Fees	KRPC 1.5
ABA Model Rule 1.6	Confidentiality	KRPC 1.6
ABA Model Rule 1.7	Conflicts of Interest	KRPC 1.7
ABA Model Rule 3.3	Candor to the Tribunal	KRPC 3.3
ABA Model Rule 5.1	Responsibilities of Supervisory Lawyers	KRPC 5.1
ABA Model Rule 5.3	Nonlawyer Assistance	KRPC 5.3

Minnesota

Official source for Rules of Professional Conduct:

<https://lprb.mncourts.gov/rules/Pages/MRPC.aspx>

ABA Model Rule	Topic	Minnesota Rule (clickable link)
ABA Model Rule 1.1	Competence	Minn. R. Prof. Conduct 1.1
ABA Model Rule 1.4	Client Communication	Minn. R. Prof. Conduct 1.4
ABA Model Rule 1.5	Fees	Minn. R. Prof. Conduct 1.5
ABA Model Rule 1.6	Confidentiality	Minn. R. Prof. Conduct 1.6
ABA Model Rule 1.7	Conflicts of Interest	Minn. R. Prof. Conduct 1.7
ABA Model Rule 3.3	Candor to the Tribunal	Minn. R. Prof. Conduct 3.3
ABA Model Rule 5.1	Responsibilities of Supervisory Lawyers	Minn. R. Prof. Conduct 5.1
ABA Model Rule 5.3	Nonlawyer Assistance	Minn. R. Prof. Conduct 5.3

Missouri

Official source for Rules of Professional Conduct:

<https://www.courts.mo.gov/page.jsp?id=200636&up=198903>

ABA Model Rule	Topic	Missouri Rule (clickable link)
ABA Model Rule 1.1	Competence	Mo. Sup. Ct. R. 4-1.1
ABA Model Rule 1.4	Client Communication	Mo. Sup. Ct. R. 4-1.4
ABA Model Rule 1.5	Fees	Mo. Sup. Ct. R. 4-1.5
ABA Model Rule 1.6	Confidentiality	Mo. Sup. Ct. R. 4-1.6
ABA Model Rule 1.7	Conflicts of Interest	Mo. Sup. Ct. R. 4-1.7
ABA Model Rule 3.3	Candor to the Tribunal	Mo. Sup. Ct. R. 4-3.3
ABA Model Rule 5.1	Responsibilities of Supervisory Lawyers	Mo. Sup. Ct. R. 4-5.1
ABA Model Rule 5.3	Nonlawyer Assistance	Mo. Sup. Ct. R. 4-5.3

Nebraska

Official source for Rules of Professional Conduct:

<https://nebraskajudicial.gov/supreme-court-rules/chapter-3-attorneys-and-practice-law/article-5-nebraska-rules-professional-co>

ABA Model Rule	Topic	Nebraska Rule (clickable link)
ABA Model Rule 1.1	Competence	Neb. Ct. R. Prof. Cond. § 3-501.1
ABA Model Rule 1.4	Client Communication	Neb. Ct. R. Prof. Cond. § 3-501.4
ABA Model Rule 1.5	Fees	Neb. Ct. R. Prof. Cond. § 3-501.5
ABA Model Rule 1.6	Confidentiality	Neb. Ct. R. Prof. Cond. § 3-501.6
ABA Model Rule 1.7	Conflicts of Interest	Neb. Ct. R. Prof. Cond. § 3-501.7
ABA Model Rule 3.3	Candor to the Tribunal	Neb. Ct. R. Prof. Cond. § 3-503.3
ABA Model Rule 5.1	Responsibilities of Supervisory Lawyers	Neb. Ct. R. Prof. Cond. § 3-505.1
ABA Model Rule 5.3	Nonlawyer Assistance	Neb. Ct. R. Prof. Cond. § 3-505.3

Nevada

Official source for Rules of Professional Conduct:

<https://nvbar.org/for-lawyers/ethics-discipline/rules/>

ABA Model Rule	Topic	Nevada Rule (clickable link)
ABA Model Rule 1.1	Competence	Nev. RPC 1.1
ABA Model Rule 1.4	Client Communication	Nev. RPC 1.4
ABA Model Rule 1.5	Fees	Nev. RPC 1.5
ABA Model Rule 1.6	Confidentiality	Nev. RPC 1.6
ABA Model Rule 1.7	Conflicts of Interest	Nev. RPC 1.7
ABA Model Rule 3.3	Candor to the Tribunal	Nev. RPC 3.3
ABA Model Rule 5.1	Responsibilities of Supervisory Lawyers	Nev. RPC 5.1
ABA Model Rule 5.3	Nonlawyer Assistance	Nev. RPC 5.3

New Hampshire

Official source for Rules of Professional Conduct:

<https://www.courts.nh.gov/new-hampshire-rules-professional-conduct>

ABA Model Rule	Topic	New Hampshire Rule (clickable link)
ABA Model Rule 1.1	Competence	N.H. R. Prof. Conduct 1.1
ABA Model Rule 1.4	Client Communication	N.H. R. Prof. Conduct 1.4
ABA Model Rule 1.5	Fees	N.H. R. Prof. Conduct 1.5
ABA Model Rule 1.6	Confidentiality	N.H. R. Prof. Conduct 1.6
ABA Model Rule 1.7	Conflicts of Interest	N.H. R. Prof. Conduct 1.7
ABA Model Rule 3.3	Candor to the Tribunal	N.H. R. Prof. Conduct 3.3
ABA Model Rule 5.1	Responsibilities of Supervisory Lawyers	N.H. R. Prof. Conduct 5.1
ABA Model Rule 5.3	Nonlawyer Assistance	N.H. R. Prof. Conduct 5.3

New Jersey

Official source for Rules of Professional Conduct:

<https://www.njcourts.gov/attorneys/rules-of-court>

ABA Model Rule	Topic	New Jersey Rule (clickable link)
ABA Model Rule 1.1	Competence	N.J. RPC 1.1
ABA Model Rule 1.4	Client Communication	N.J. RPC 1.4
ABA Model Rule 1.5	Fees	N.J. RPC 1.5
ABA Model Rule 1.6	Confidentiality	N.J. RPC 1.6
ABA Model Rule 1.7	Conflicts of Interest	N.J. RPC 1.7
ABA Model Rule 3.3	Candor to the Tribunal	N.J. RPC 3.3
ABA Model Rule 5.1	Responsibilities of Supervisory Lawyers	N.J. RPC 5.1
ABA Model Rule 5.3	Nonlawyer Assistance	N.J. RPC 5.3

New York

Official source for Rules of Professional Conduct:

<https://www.nycourts.gov/legacypdfs/rules/jointappellate/NY%20Rules%20of%20Prof%20Conduct.pdf>

ABA Model Rule	Topic	New York Rule (clickable link)
ABA Model Rule 1.1	Competence	NY RPC Rule 1.1
ABA Model Rule 1.4	Client Communication	NY RPC Rule 1.4
ABA Model Rule 1.5	Fees	NY RPC Rule 1.5
ABA Model Rule 1.6	Confidentiality	NY RPC Rule 1.6
ABA Model Rule 1.7	Conflicts of Interest	NY RPC Rule 1.7
ABA Model Rule 3.3	Candor to the Tribunal	NY RPC Rule 3.3
ABA Model Rule 5.1	Responsibilities of Supervisory Lawyers	NY RPC Rule 5.1
ABA Model Rule 5.3	Nonlawyer Assistance	NY RPC Rule 5.3

Ohio

Official source for Rules of Professional Conduct:

<https://www.supremecourt.ohio.gov/docs/LegalResources/Rules/ProfConduct/profConductRules.pdf>

ABA Model Rule	Topic	Ohio Rule (clickable link)
ABA Model Rule 1.1	Competence	Ohio R. Prof. Conduct 1.1
ABA Model Rule 1.4	Client Communication	Ohio R. Prof. Conduct 1.4
ABA Model Rule 1.5	Fees	Ohio R. Prof. Conduct 1.5
ABA Model Rule 1.6	Confidentiality	Ohio R. Prof. Conduct 1.6
ABA Model Rule 1.7	Conflicts of Interest	Ohio R. Prof. Conduct 1.7
ABA Model Rule 3.3	Candor to the Tribunal	Ohio R. Prof. Conduct 3.3
ABA Model Rule 5.1	Responsibilities of Supervisory Lawyers	Ohio R. Prof. Conduct 5.1
ABA Model Rule 5.3	Nonlawyer Assistance	Ohio R. Prof. Conduct 5.3

Oklahoma

Official source for Rules of Professional Conduct:

<https://digitalprairie.ok.gov/digital/api/collection/p16807coll4/id/12539/download>

ABA Model Rule	Topic	Oklahoma Rule (clickable link)
ABA Model Rule 1.1	Competence	Okla. R. Prof. Conduct Rule 1.1
ABA Model Rule 1.4	Client Communication	Okla. R. Prof. Conduct Rule 1.4
ABA Model Rule 1.5	Fees	Okla. R. Prof. Conduct Rule 1.5
ABA Model Rule 1.6	Confidentiality	Okla. R. Prof. Conduct Rule 1.6
ABA Model Rule 1.7	Conflicts of Interest	Okla. R. Prof. Conduct Rule 1.7
ABA Model Rule 3.3	Candor to the Tribunal	Okla. R. Prof. Conduct Rule 3.3
ABA Model Rule 5.1	Responsibilities of Supervisory Lawyers	Okla. R. Prof. Conduct Rule 5.1
ABA Model Rule 5.3	Nonlawyer Assistance	Okla. R. Prof. Conduct Rule 5.3

Tennessee

Official source for Rules of Professional Conduct:

<https://www.tncourts.gov/courts/supreme-court/rules/supreme-court-rules/rule-8-rules-professional-conduct>

ABA Model Rule	Topic	Tennessee Rule (clickable link)
ABA Model Rule 1.1	Competence	Tenn. Sup. Ct. R. 8 Rule 1.1
ABA Model Rule 1.4	Client Communication	Tenn. Sup. Ct. R. 8 Rule 1.4
ABA Model Rule 1.5	Fees	Tenn. Sup. Ct. R. 8 Rule 1.5
ABA Model Rule 1.6	Confidentiality	Tenn. Sup. Ct. R. 8 Rule 1.6
ABA Model Rule 1.7	Conflicts of Interest	Tenn. Sup. Ct. R. 8 Rule 1.7
ABA Model Rule 3.3	Candor to the Tribunal	Tenn. Sup. Ct. R. 8 Rule 3.3
ABA Model Rule 5.1	Responsibilities of Supervisory Lawyers	Tenn. Sup. Ct. R. 8 Rule 5.1
ABA Model Rule 5.3	Nonlawyer Assistance	Tenn. Sup. Ct. R. 8 Rule 5.3

Vermont

Official source for Rules of Professional Conduct:

<https://www.vermontjudiciary.org/sites/default/files/documents/VermontRulesofProfessionalConduct.pdf>

ABA Model Rule	Topic	Vermont Rule (clickable link)
ABA Model Rule 1.1	Competence	Vt. R. Prof. Conduct Rule 1.1
ABA Model Rule 1.4	Client Communication	Vt. R. Prof. Conduct Rule 1.4
ABA Model Rule 1.5	Fees	Vt. R. Prof. Conduct Rule 1.5
ABA Model Rule 1.6	Confidentiality	Vt. R. Prof. Conduct Rule 1.6
ABA Model Rule 1.7	Conflicts of Interest	Vt. R. Prof. Conduct Rule 1.7
ABA Model Rule 3.3	Candor to the Tribunal	Vt. R. Prof. Conduct Rule 3.3
ABA Model Rule 5.1	Responsibilities of Supervisory Lawyers	Vt. R. Prof. Conduct Rule 5.1
ABA Model Rule 5.3	Nonlawyer Assistance	Vt. R. Prof. Conduct Rule 5.3

Virginia

Official source for Rules of Professional Conduct:

<https://vsb.org/Site/Site/about/rules-regulations/rpc-part6-sec2.aspx>

ABA Model Rule	Topic	Virginia Rule (clickable link)
ABA Model Rule 1.1	Competence	Va. Rules of Prof. Conduct Rule 1.1
ABA Model Rule 1.4	Client Communication	Va. Rules of Prof. Conduct Rule 1.4
ABA Model Rule 1.5	Fees	Va. Rules of Prof. Conduct Rule 1.5
ABA Model Rule 1.6	Confidentiality	Va. Rules of Prof. Conduct Rule 1.6
ABA Model Rule 1.7	Conflicts of Interest	Va. Rules of Prof. Conduct Rule 1.7
ABA Model Rule 3.3	Candor to the Tribunal	Va. Rules of Prof. Conduct Rule 3.3
ABA Model Rule 5.1	Responsibilities of Supervisory Lawyers	Va. Rules of Prof. Conduct Rule 5.1
ABA Model Rule 5.3	Nonlawyer Assistance	Va. Rules of Prof. Conduct Rule 5.3

Washington

Official source for Rules of Professional Conduct:

<https://www.courts.wa.gov/courtrules/rulesofProfessionalConduct.cfm>

ABA Model Rule	Topic	Washington Rule (clickable link)
ABA Model Rule 1.1	Competence	Wash. RPC RPC 1.1
ABA Model Rule 1.4	Client Communication	Wash. RPC RPC 1.4
ABA Model Rule 1.5	Fees	Wash. RPC RPC 1.5
ABA Model Rule 1.6	Confidentiality	Wash. RPC RPC 1.6
ABA Model Rule 1.7	Conflicts of Interest	Wash. RPC RPC 1.7
ABA Model Rule 3.3	Candor to the Tribunal	Wash. RPC RPC 3.3
ABA Model Rule 5.1	Responsibilities of Supervisory Lawyers	Wash. RPC RPC 5.1
ABA Model Rule 5.3	Nonlawyer Assistance	Wash. RPC RPC 5.3

West Virginia

Official source for Rules of Professional Conduct:

<https://www.courtswv.gov/legal-community/court-rules/west-virginia-rules-professional-conduct>

ABA Model Rule	Topic	West Virginia Rule (clickable link)
ABA Model Rule 1.1	Competence	W. Va. R. Prof. Conduct Rule 1.1
ABA Model Rule 1.4	Client Communication	W. Va. R. Prof. Conduct Rule 1.4
ABA Model Rule 1.5	Fees	W. Va. R. Prof. Conduct Rule 1.5
ABA Model Rule 1.6	Confidentiality	W. Va. R. Prof. Conduct Rule 1.6
ABA Model Rule 1.7	Conflicts of Interest	W. Va. R. Prof. Conduct Rule 1.7
ABA Model Rule 3.3	Candor to the Tribunal	W. Va. R. Prof. Conduct Rule 3.3
ABA Model Rule 5.1	Responsibilities of Supervisory Lawyers	W. Va. R. Prof. Conduct Rule 5.1
ABA Model Rule 5.3	Nonlawyer Assistance	W. Va. R. Prof. Conduct Rule 5.3

LLMs in Law

Yuri Eliezer

It can be generally said that knowledge is conveyed through the written and spoken words/language. The corpus of language (written and oral), in all of its origins, embodies the collective knowledge that man has accumulated from the time of his awakening. To this day, most of our economy in the United States is considered to be a “knowledge” economy, and most of our workers are “knowledge” workers.

Large Language Models (LLMs) are masters at language, and incorporate learning techniques that, although still not equivalent to our conscious mind's capabilities, can surpass human capability in processing vast volumes of language. As these models improve, they may begin to match human “intelligence”—but even now, with the sheer volume of data and parameters they can process, LLMs already outperform most humans in language processing. And therefore, in processing human knowledge.

So, if LLMs are masters at language, and thus masters of human knowledge, can machines operated by LLMs surpass the capabilities of humans? The practice of law, for example, is (effectively) completely based on the written and spoken word. Can LLMs master the job of a lawyer?

Let's consider a generalization of almost every “legal” matter performed by a legal professional:

1. Facts are ingested in language form,
2. research is performed based on language,
3. a written work product is produced,
4. oral arguments are presented, and
5. a judge issues a written opinion.

Every stage of this process is language-based. Any "creativity" or "legal maneuvering" that clients seek from a skilled attorney is constrained by codified laws or judicial opinions—all of which are published in writing and publicly available (and, therefore, accessible for LLM training).

OpenAI reports that its GPT-4 model scored in the 90th percentile on a simulated bar exam—a performance that exceeds that of 90% of human test takers.¹ But it's not just skill. It's also the unparalleled accessibility, memory, and pattern-matching ability of LLMs—capabilities that allow them to process and recall legal language at a scale no human can. In areas like law, where "creativity" is constrained, this becomes a game-changing advantage.

Thus, the legal profession is uniquely ripe for disruption based on three key factors:

1. It is wholly language-based;

¹ OpenAI, GPT-4 Technical Report, <https://openai.com/research/gpt-4> (Mar. 2023).

2. It allows minimal room for human creativity due to the prescriptive nature of law; and
3. Access to legal services remains cost-prohibitive for many Americans.

I. Ethical and Regulatory Frameworks Governing AI Use in Law

A. Confidentiality and Conflicts of Interest

When Lawyers train the models in their firm, it is imperative that they have a means to silo the data in a way that does not allow for one client's secrets to be used to its detriment in any way, particularly when the law firm represents another client who may be 'adverse' or 'in competition with' the earlier client.

Under Model Rule 1.6, a lawyer “shall not reveal information relating to the representation of a client” absent informed consent, and must safeguard such information from unauthorized access.² Lawyers must also act competently in protecting information, including when using technologies such as AI.³

Model Rule 1.7 further prohibits representation involving a concurrent conflict of interest, defined as situations where “the representation of one client will be directly adverse to another client” or where representation “may be materially limited by responsibilities to another client” or a third party.⁴ For AI systems trained on client data, strict data segregation is therefore imperative to avoid cross-client contamination or inadvertent advantage.

B. Supervisory Duties over AI Tools

Model Rule 5.1 requires partners and supervisory lawyers to ensure that all legal services comply with professional conduct rules.⁵ Model Rule 5.3 extends this duty to “nonlawyer assistance,” including the output of AI tools used in practice.⁶ The shift in Rule 5.3’s language in 2012 from “assistants” to “assistance” reflects the ABA’s acknowledgment that non-human actors (like AI) fall under the scope of ethical supervision.

C. Technological Competence

Model Rule 1.1, which addresses a lawyer’s duty of competence, was updated in 2012 via Comment 8 to include technological competence.⁷ Lawyers are now expected to “keep abreast of changes in the law and its practice, including the benefits and risks associated with relevant technology.”⁸ In 2019, the ABA adopted Resolution 112, urging legal professionals to address issues such as bias, explainability, transparency, and oversight related to AI.⁹

² Model Rules of Pro. Conduct r. 1.6(a) (Am. Bar Ass’n 2020).

³ Id. r. 1.6 cmt. 18.

⁴ Id. r. 1.7(a).

⁵ Id. r. 5.1(a).

⁶ Id. r. 5.3; see also id. r. 5.3 cmt. 1 (as amended in 2012).

⁷ Id. r. 1.1 cmt. 8

⁸ Id.

⁹ Am. Bar Ass’n, Resolution 112 (Aug. 2019) and 118 (May 2023)

D. Reasonable Fees and Billing Practices

Model Rule 1.5 requires lawyers' fees to be reasonable.¹⁰ A lawyer using AI tools may charge for the time spent inputting data and reviewing generated work product, but generally may not charge a client for time spent learning how to use the tool.¹¹

E. Candor Toward the Tribunal

Model Rule 3.3 requires lawyers to avoid misleading courts through false statements or filings.¹² The now-infamous *Mata v. Avianca* case demonstrated the dangers of unverified AI output: an attorney filed a court brief containing fictitious case citations produced by ChatGPT. The court reprimanded the attorney, emphasizing that reliance on AI does not absolve lawyers of the duty to ensure accuracy.¹³

F. Client Communication and Disclosure of AI Use

Under Model Rule 1.4, lawyers are obligated to communicate reasonably with clients, including consultation about the means used to accomplish legal objectives.¹⁴ This arguably includes informing clients about the use of AI in their representation, particularly where data privacy or substantive outcomes are affected.

G. A Call for Secure, Siloed AI Systems

Legal professionals must ensure that AI systems used within firms are secure, properly siloed, and vetted to avoid inadvertent violations of confidentiality and conflict-of-interest rules. As client data traverses third-party services, lawyers must confirm that AI vendors comply with stringent data privacy standards and legal ethics obligations.

Conclusion

As LLMs evolve and the legal industry adapts, disruption is not a distant possibility—it is imminent. Because legal work is entirely based in language, minimally creative, and economically exclusionary for many, it is fertile ground for LLM deployment. But that transformation must adhere to the legal profession's ethical mandates: confidentiality, candor, competence, and client legal communication. When applied thoughtfully, legal AI can radically expand access to the legal system.

¹⁰ Model Rules of Pro. Conduct r. 1.5(a).

¹¹ Id.; see also ABA Comm. on Ethics & Prof'l Responsibility, Formal Op. 505 (2023).

¹² Model Rules of Pro. Conduct r. 3.3(a).

¹³ *Mata v. Avianca, Inc.*, No. 22-cv-1461 (PKC), 2023 WL 4114965 (S.D.N.Y. June 22, 2023).

¹⁴ Model Rules of Pro. Conduct r. 1.4(a), (b); id. cmt. 1, 3.

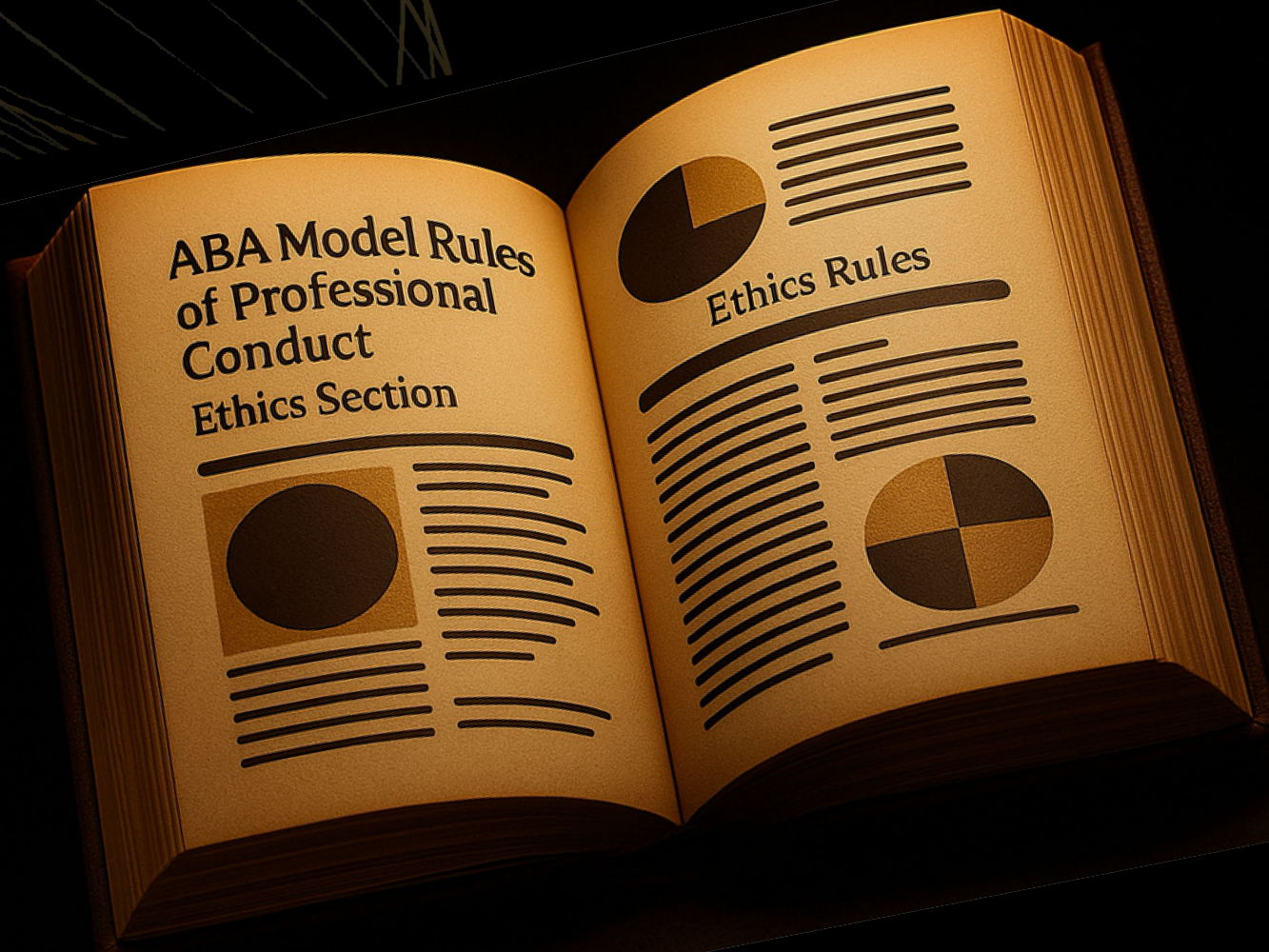
About the Author

Yuri Eliezer is a U.S. patent attorney and CEO of Junior, an AI-powered patent associate platform. He has spent his career advising inventors, corporations, and research institutions on intellectual property strategy. His work at Junior reflects his dual focus on legal practice and the ethical integration of AI into law.

The Legal Framework for Adopting AI

The practice of law is highly regulated, with several rules governing the ethical adoption of AI:

- ABA Model Rule 1.1 – Competence
- ABA Model Rule 1.4 – Client Communication
- ABA Model Rule 1.5 – Fees
- ABA Model Rule 1.6 – Confidentiality
- ABA Model Rule 1.7 – Conflicts of Interest
- ABA Model Rule 3.3 – Candor to the Tribunal
- ABA Model Rule 5.1 – Responsibilities of Supervisory Lawyers
- ABA Model Rule 5.3 – Responsibilities Regarding Nonlawyer Assistance
- **ABA Model Rule 5.5 – Unauthorized Practice of Law**



Rule 1.1—Duty of Competence

"A lawyer shall provide competent representation to a client. Competent representation requires the legal knowledge, skill, thoroughness and preparation reasonably necessary for the representation."

Client-Centered Understanding

Lawyers must thoroughly understand the scenarios and circumstances surrounding their clients' specific needs.

Technological Competence

Comment 8 now explicitly includes technological competence as part of legal competence requirements.

Obligation to Innovate

Seeking out the latest tools is part of the competence requirement—lawyers must use available technical means for effective representation.

Rule 1.4 — Client Communication

A lawyer shall reasonably consult with the client about the means by which the client's objectives are to be accomplished.

Disclosure Obligation

Clients should be informed if AI is used substantively in their legal matter.

Materiality Standard

Disclosure is required if AI usage affects cost, confidentiality, or potential outcomes.

Relationship Benefits

Transparent AI disclosure builds client trust and meets ethical disclosure standards.

Rule 1.6 — Confidentiality

"A lawyer shall not reveal information relating to the representation of a client unless the client gives informed consent..."

Implications for AI Implementation:

- Client must provide informed consent
- All client data must be rigorously protected
- AI systems must be siloed and secure by design
- Cross-client training without explicit informed consent constitutes an ethical violation



Rule 1.7—Conflicts of Interest

A concurrent conflict of interest exists if "the representation of one client will be directly adverse to another client" or if there is a significant risk of material limitation due to other client obligations.

Critical AI Conflicts Considerations

- Cannot train AI on one client's data and use it to benefit another
- Even internal misuse can constitute a significant conflict
- Requires strict technical data segmentation between matters and clients
- This presents a major challenge in enabling proper infrastructure and architecture



Rule 5.3 / 5.5 — Nonlawyer Assistance + Unauthorized PL

Lawyers must make reasonable efforts to ensure that nonlawyer assistants' conduct is compatible with the professional obligations of the lawyer.

AI as "Nonlawyer Assistance"

- AI systems are categorized as "nonlawyer assistance" under ethics rules
- Outputs must be reviewed with the same scrutiny as junior associate work
- Unlike delegating to junior attorneys who hold individual licenses, the full ethical burden remains on the supervising attorney



LEXAI

Rule 1.5—Reasonable Fees

A partner in a law firm, and a lawyer with supervisory authority, must make reasonable efforts to ensure the firm has in effect measures giving reasonable assurance that all lawyers conform to the Rules of Professional Conduct.

Leadership Accountability

Firm leadership must ensure AI outputs comply with all applicable ethics rules.

Non-Delegable Duty

Ethical oversight cannot be delegated to software or systems.

Continuous Verification

Firms must implement processes to monitor, test, and validate AI systems and outputs.

The Model AI Attorney

A comprehensive examination of how artificial intelligence is reshaping the legal profession through ethical implementation, enhanced efficiency, and expanded access to justice.

By Yuri L. Eliezer
CEO | Junior





Law Is a Language Profession

Language-Centered

All legal work involves language: facts, research, drafting, argument, and decisions.

LLM Optimization

Large Language Models are specifically optimized for complex language tasks.

Perfect Match

Therefore, legal work is uniquely suitable for AI transformation.

LLMs Are Knowledge Workers



Superior Language Processing

LLMs outperform most humans in processing legal language at scale.

Proven Competence

GPT-4 scored in the 90th percentile on the bar exam, demonstrating practical legal knowledge.

Specifically, helps with technical subject matter expertise.

Cognitive Advantages

They offer superior memory, pattern-recognition, and consistency that humans cannot match at scale.

Why Legal Work Is Ripe for AI Disruption



Language-Based

Legal practice is fundamentally a language-intensive profession, making it ideal for LLM applications.



Rule-Constrained

Practice is constrained by codified law and precedent, providing clear parameters for AI operation.



Access Barriers

Legal services remain inaccessible for many due to prohibitive costs. AI can dramatically expand access and improve efficiency.

The Legal Framework for Adopting AI

The practice of law is highly regulated, with several rules governing the ethical adoption of AI:

- ABA Model Rule 1.1 – Competence
- ABA Model Rule 1.4 – Client Communication
- ABA Model Rule 1.5 – Fees
- ABA Model Rule 1.6 – Confidentiality
- ABA Model Rule 1.7 – Conflicts of Interest
- ABA Model Rule 3.3 – Candor to the Tribunal
- ABA Model Rule 5.1 – Responsibilities of Supervisory Lawyers
- ABA Model Rule 5.3 – Responsibilities Regarding Nonlawyer Assistance



Rule 1.1 — Duty of Competence

"A lawyer shall provide competent representation to a client. Competent representation requires the legal knowledge, skill, thoroughness and preparation reasonably necessary for the representation."

Client-Centered Understanding

Lawyers must thoroughly understand the scenarios and circumstances surrounding their clients' specific needs.

Technological Competence

Comment 8 now explicitly includes technological competence as part of legal competence requirements.

Obligation to Innovate

Seeking out the latest tools is part of the competence requirement—lawyers must use available technical means for effective representation.

Rule 1.4 – Client Communication

A lawyer shall reasonably consult with the client about the means by which the client's objectives are to be accomplished.

Disclosure Obligation

Clients should be informed if AI is used substantively in their legal matter.

Materiality Standard

Disclosure is required if AI usage affects cost, confidentiality, or potential outcomes.

Relationship Benefits

Transparent AI disclosure builds client trust and meets ethical disclosure standards.

Rule 1.5 — Reasonable Fees

A lawyer shall not make an agreement for, charge, or collect an unreasonable fee or an unreasonable amount for expenses.

1

Billable AI Work

Attorneys may bill clients for AI-assisted legal work that creates value.

2

Training Exclusion

Attorneys may not bill for time spent learning how to use AI tools.

3

Billing Transparency

Clear disclosure of AI usage in billing practices is essential for ethical compliance.

Rule 1.6 — Confidentiality

"A lawyer shall not reveal information relating to the representation of a client unless the client gives informed consent..."



Implications for AI Implementation:

- Client must provide informed consent
- All client data must be rigorously protected
- AI systems must be siloed and secure by design
- Cross-client training without explicit informed consent constitutes an ethical violation

Rule 1.7 – Conflicts of Interest

A concurrent conflict of interest exists if "the representation of one client will be directly adverse to another client" or if there is a significant risk of material limitation due to other client obligations.

⊗ Critical AI Conflicts Considerations

- Cannot train AI on one client's data and use it to benefit another
- Even internal misuse can constitute a significant conflict
- Requires strict technical data segmentation between matters and clients
- This presents a major challenge in enabling proper infrastructure and architecture



AI Generated Case Summary”

Rule 3.3 — Candor to the Tribunal

A lawyer shall not knowingly make a false statement of fact or law to a tribunal...

AI Verification Requirements

- Lawyers must not file hallucinated or unverified AI output
- AI use doesn't relieve attorneys from thorough fact-checking duty

⚠ Cautionary Example

Mata v. Avianca: Attorney sanctioned for submitting a brief containing non-existent cases fabricated by an AI system, which the attorney failed to verify.

Rule 5.1 – Supervisory Responsibilities

A partner in a law firm, and a lawyer with supervisory authority, must make reasonable efforts to ensure the firm has in effect measures giving reasonable assurance that all lawyers conform to the Rules of Professional Conduct.

Leadership Accountability

Firm leadership must ensure AI outputs comply with all applicable ethics rules.

Non-Delegable Duty

Ethical oversight cannot be delegated to software or systems.

Continuous Verification

Firms must implement processes to monitor, test, and validate AI systems and outputs.

Rule 5.3 – Nonlawyer Assistance

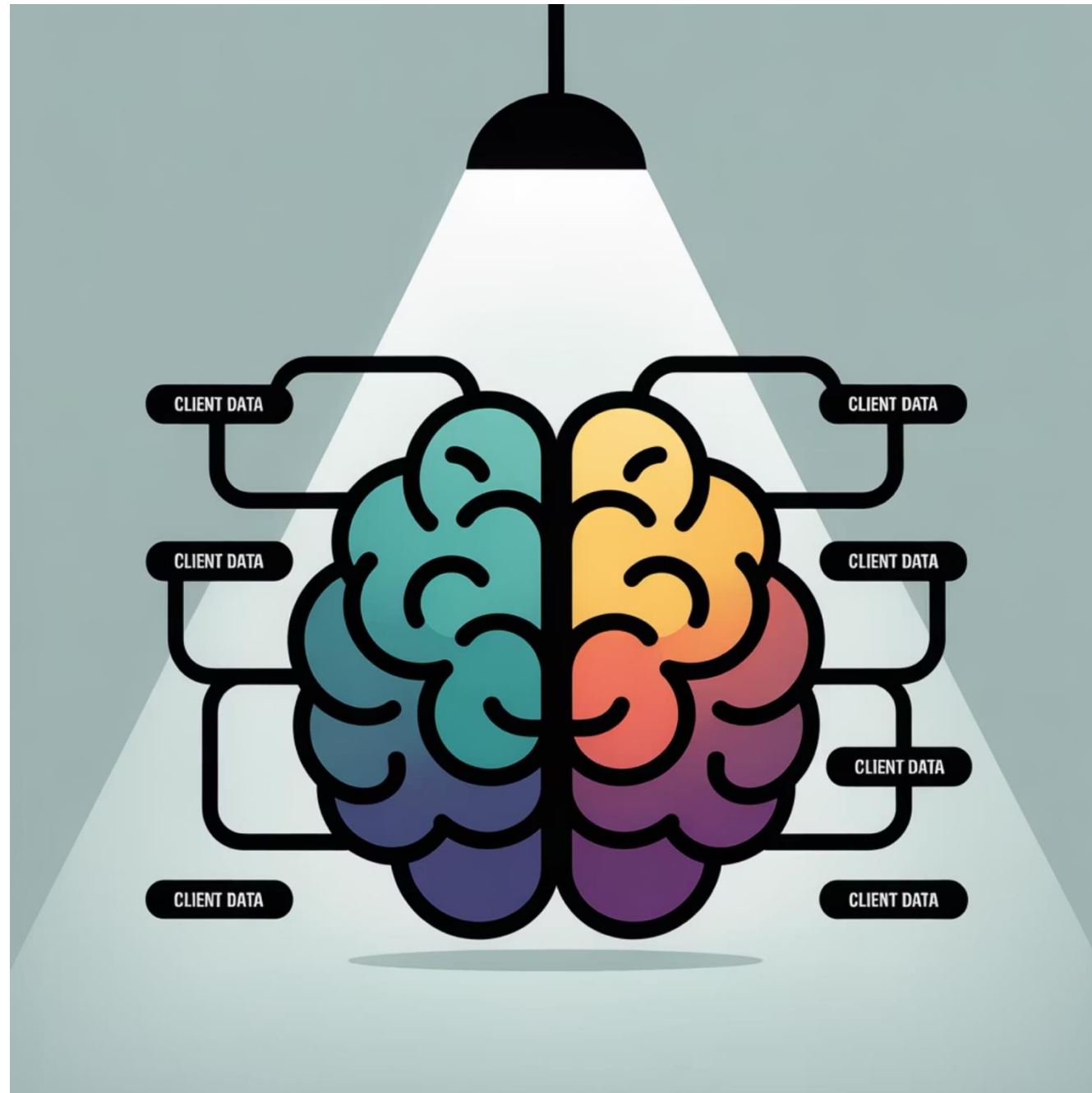
Lawyers must make reasonable efforts to ensure that nonlawyer assistants' conduct is compatible with the professional obligations of the lawyer.



AI as "Nonlawyer Assistance"

- AI systems are categorized as "nonlawyer assistance" under ethics rules
- Outputs must be reviewed with the same scrutiny as junior associate work
- Unlike delegating to junior attorneys who hold individual licenses, the full ethical burden remains on the supervising attorney

A Call for Secure, Private AI Systems



Essential AI Requirements for Legal Practice

- **Ethical Oversight:** AI must be continuously supervised
- **Client Isolation:** Systems must be siloed by client
- **Privacy-Focused:** Built for legal-grade confidentiality

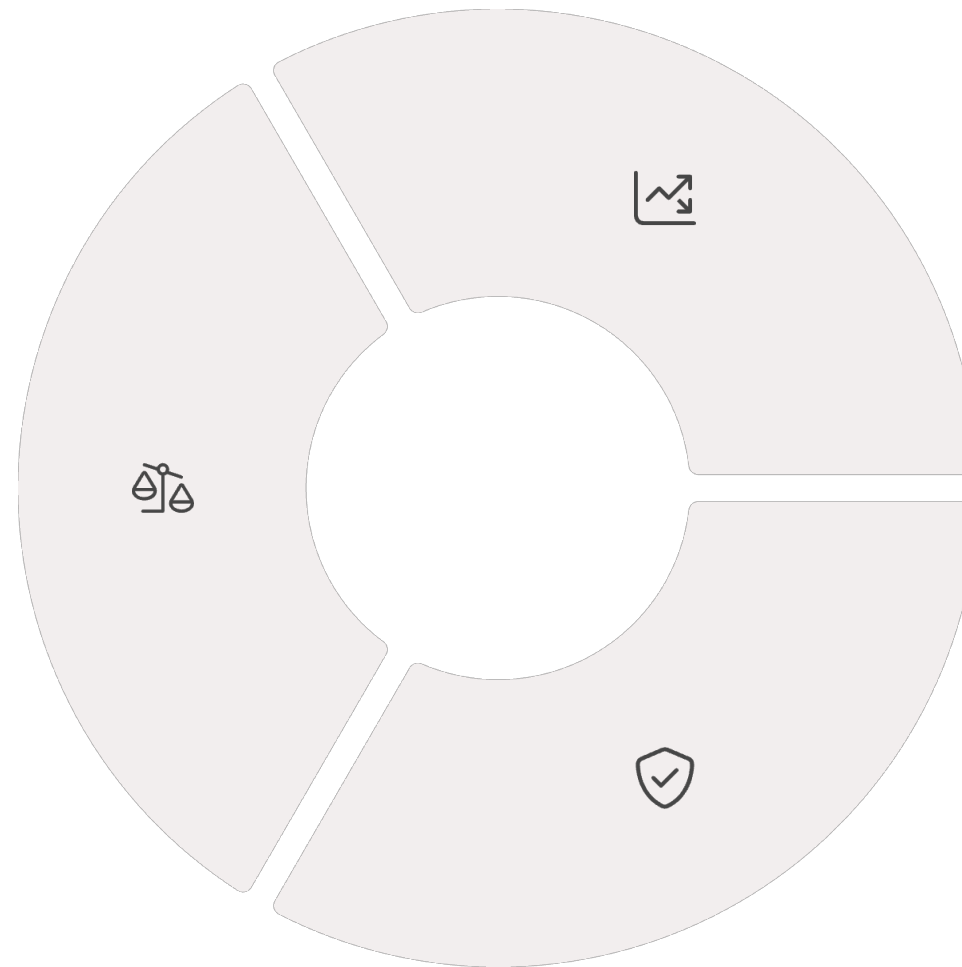
Confidentiality and regulatory compliance cannot be optional features—they must be foundational principles.



Part II: Disruption and Opportunity in Legal Practice

The Opportunity Ahead

Expanded Access
AI can dramatically expand access to legal services for underserved populations.



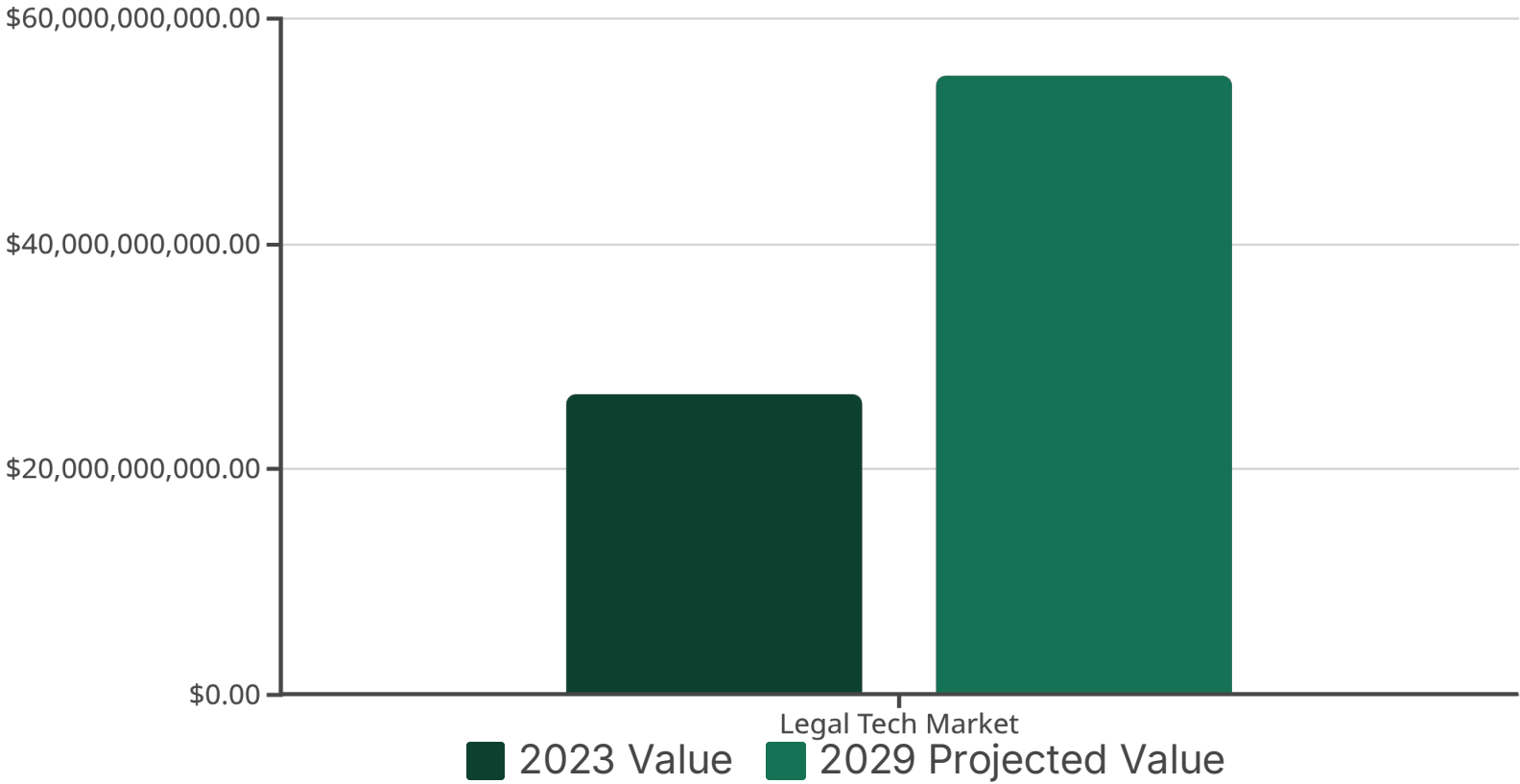
Enhanced Efficiency

Significantly reduces cost and effort without compromising quality of representation.

Ethical Deployment

Success depends on responsible, secure implementation that prioritizes client interests.

The Economic Case for Legal AI



The legal technology market is experiencing explosive growth, projected to more than double from \$26.7 billion in 2023 to over \$55 billion annually by 2029. This indicates a massive economic shift towards AI-powered solutions.

3X

Increase in law firm AI adoption (2023-2024)

\$55B

Projected Legal Tech spending by 2029

5M

Global lawyers (stable numbers, but shifting work methods)

How AI Is Reshaping Legal Roles

1 Resilient Roles

Advisors, litigators, and client-facing partners will continue to thrive as the human element remains essential for strategic guidance and courtroom advocacy.

2 Transitional Roles

Researchers, drafters, and junior associates face significant disruption as these traditionally entry-level tasks become increasingly automated.

3 Paradigm Shift

Old Paradigm: Repeatable work is being automated. **New Paradigm:** Knowledge work is now autonomous.



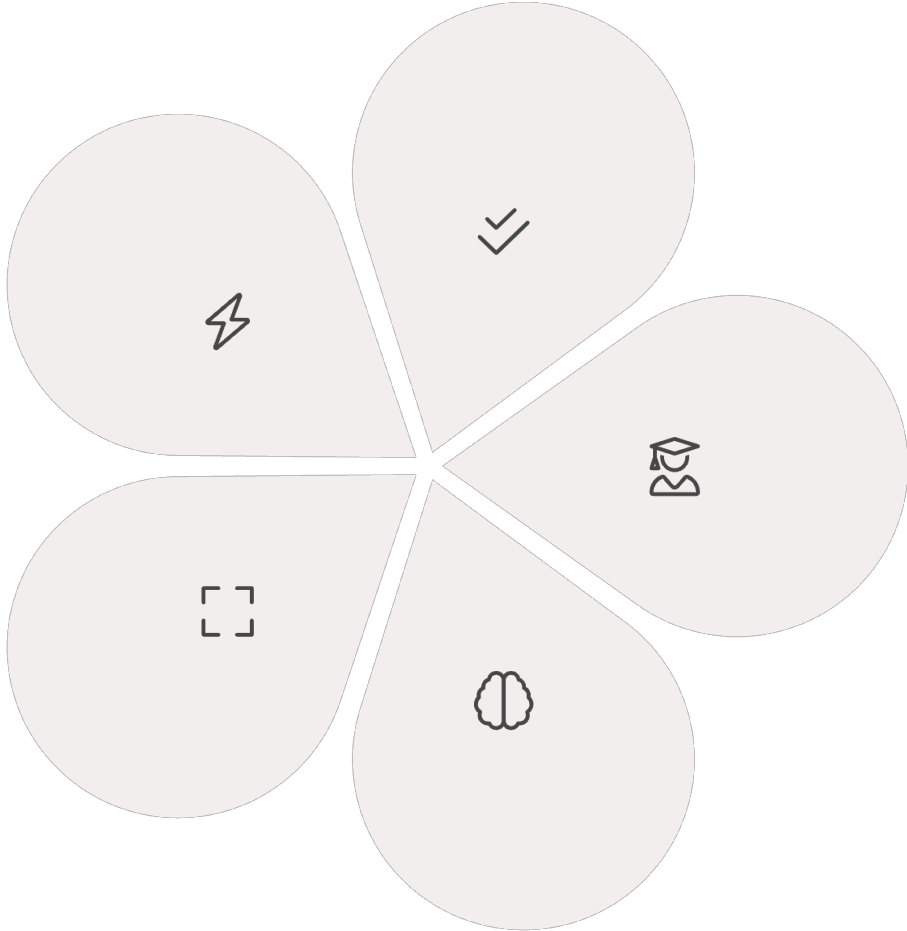
What Advantages Will AI Bring?

Increased Productivity

Attorneys can handle significantly more matters with AI assistance, dramatically increasing output per professional.

Service Bandwidth

Firms can offer a broader range of services with the same headcount, expanding practice areas.



Work Consistency

AI ensures uniform quality and compliance across all documents and matters, reducing error rates.

Enhanced Training

Junior associates benefit from AI-powered learning tools that accelerate professional development.

Team Competency

AI elevates the knowledge base of the entire legal team by providing instant access to specialized expertise.

The Results

60%

Faster Drafting

Document creation time reduced by more than half

80%

Lower Cost

Per-matter expenses dramatically reduced

10x

Output Multiplier

Team productivity increased tenfold

Source: Based on internal performance metrics from [Junior.law](#) platform deployment and user reporting

Market Dynamics

Strategy + speed = market advantage. Clients increasingly demand more services, faster delivery, and lower costs—AI accelerates this competitive tension.



How Will This Impact the Economics?



1 Entry Level Contraction

Fewer junior hires as AI handles routine tasks, reducing demand for new law school graduates.

2 Mid-Market Adjustment

Stagnation followed by slow decrease in mid-level and senior attorney positions.

3 Premium Expertise Value

Increase in senior attorney billable rates as expertise becomes more valuable in an AI-augmented environment.

The profession will likely see fewer attorneys overall, but with significantly higher throughput per professional.

Implementation: Not All AI Is Equal

Generic Tools

- General-purpose chatbots
- Opaque "black box" algorithms
- Prone to hallucinations and errors
- No client-specific customization

Specialized Legal AI

- Learns firm's norms, formatting, and tone
- Remembers client-specific preferences
- Trained on prior work product
- Private, scalable, immediate drafting

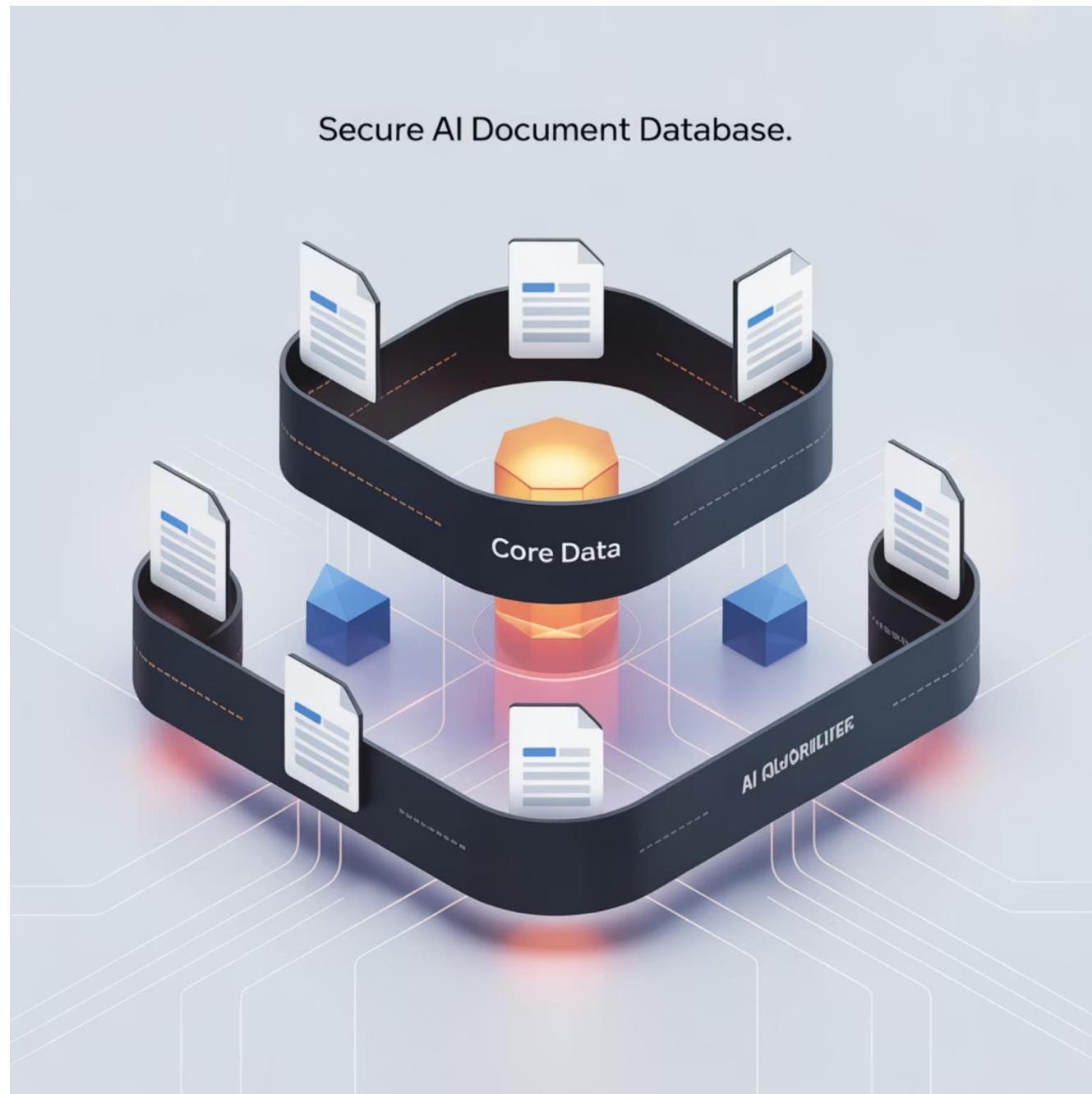
This specialized approach describes [Junior.law](#)'s implementation model



Part III: Deep Dive — Data, Differentiation, and Confidentiality



The Next Frontier: Private Legal Data



The Untapped Resource

- Public legal data is increasingly tapped out
- True value lies in proprietary internal work product
- Internal drafts encode strategy and expertise
- These become invaluable training assets for AI
- Makes the firm's collective intelligence scalable

By securely leveraging its own knowledge base, a firm can create a powerful competitive advantage that cannot be easily replicated.

The AI Attorney Who Watches Everyone

System Integration

- Email systems
- Document databases
- Word processors

Data Access

- Billing records
- Matter information
- Docket monitoring
- Client profiles

Continuous Improvement

- Associate training
- Output consistency
- Faster partner approval

This comprehensive integration meets the client objective for more services, faster delivery, and lower costs.



But It Must Be Ethically Segmented

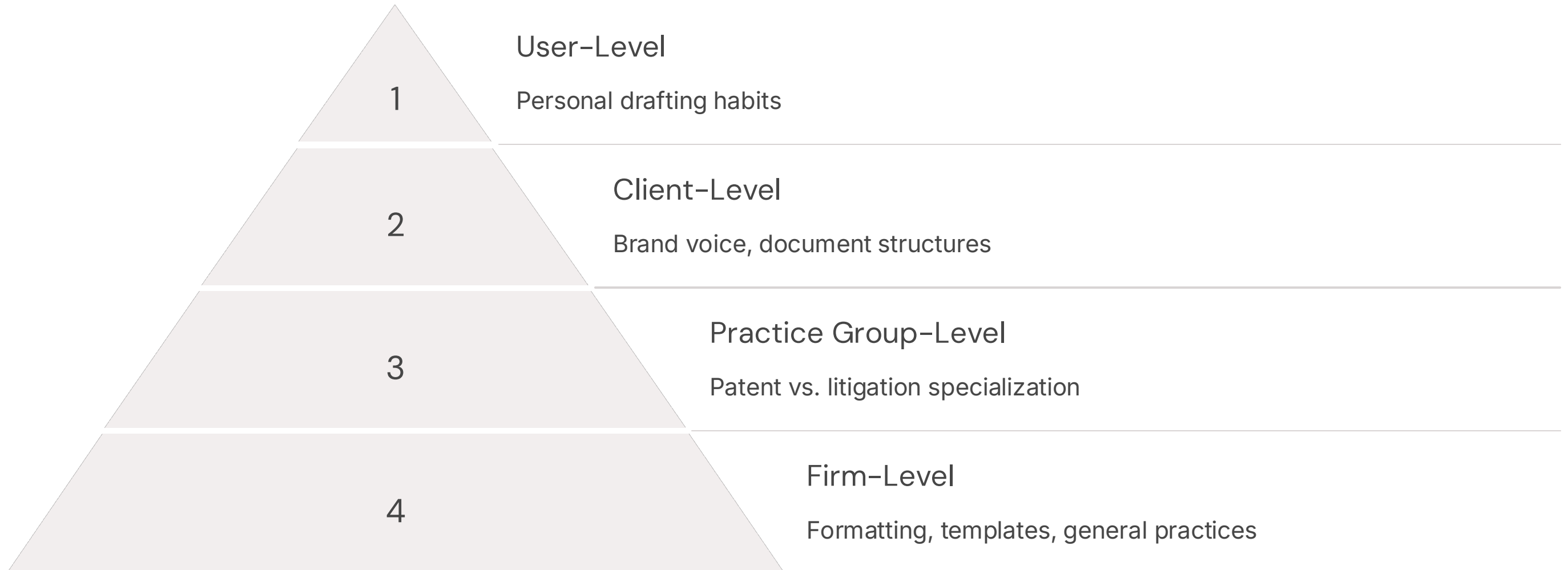
Rule 1.6 of the ABA model ethics code explicitly prohibits cross-client data use without informed consent from the client.

⊗ Critical Danger Areas

- **Trade Secrets:** Confidential business information could be compromised
- **Deal Terms:** Sensitive negotiation strategies might leak between clients
- **Pre-published Patent Data:** Intellectual property could be exposed prematurely

AI systems must be designed to prevent information leakage between matters and clients—this is not merely a best practice but an ethical and legal requirement.

Segmentation Must Be Multi-Level



Effective data segmentation requires a carefully designed architecture that separates information at multiple levels while still enabling appropriate knowledge sharing where ethically permitted.

The Risk Without Segmentation

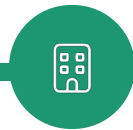


Ethical and Legal Consequences

- Cross-client data contamination leading to confidentiality breaches
- Accidental conflicts of interest through algorithmic knowledge transfer
- Significant malpractice exposure and potential disciplinary action

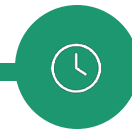
⚠ Unsegmented AI represents a serious liability, not an asset.

The Real-World Constraint



Limited Technical Resources

Most law firms lack the internal machine learning expertise needed to build and maintain sophisticated LLM systems.



Rapid Model Evolution

Frontier AI models evolve too quickly for most legal organizations to keep pace with development.



Technical Debt Risk

Private model development creates short-term gains but risks long-term technical debt as models become outdated.



The Risk of Isolation

Competitive Disadvantage

- Public models improve rapidly with massive R&D investment
- Private models stagnate without comparable resources
- Falling behind leads to progressively worse outputs and higher costs

Client-Driven Evolution

Client policies will increasingly drive model selection:

- Corporate clients may mandate specific AI platforms
- These may include their own private-hosted models
- Firms must be adaptable to client requirements

The Solution: Structured, Portable Data

Leverage Existing Models

Rather than building new foundation models, leverage existing state-of-the-art systems.

Separate Memory

Keep organizational knowledge separate from the underlying AI engine for maximum flexibility.

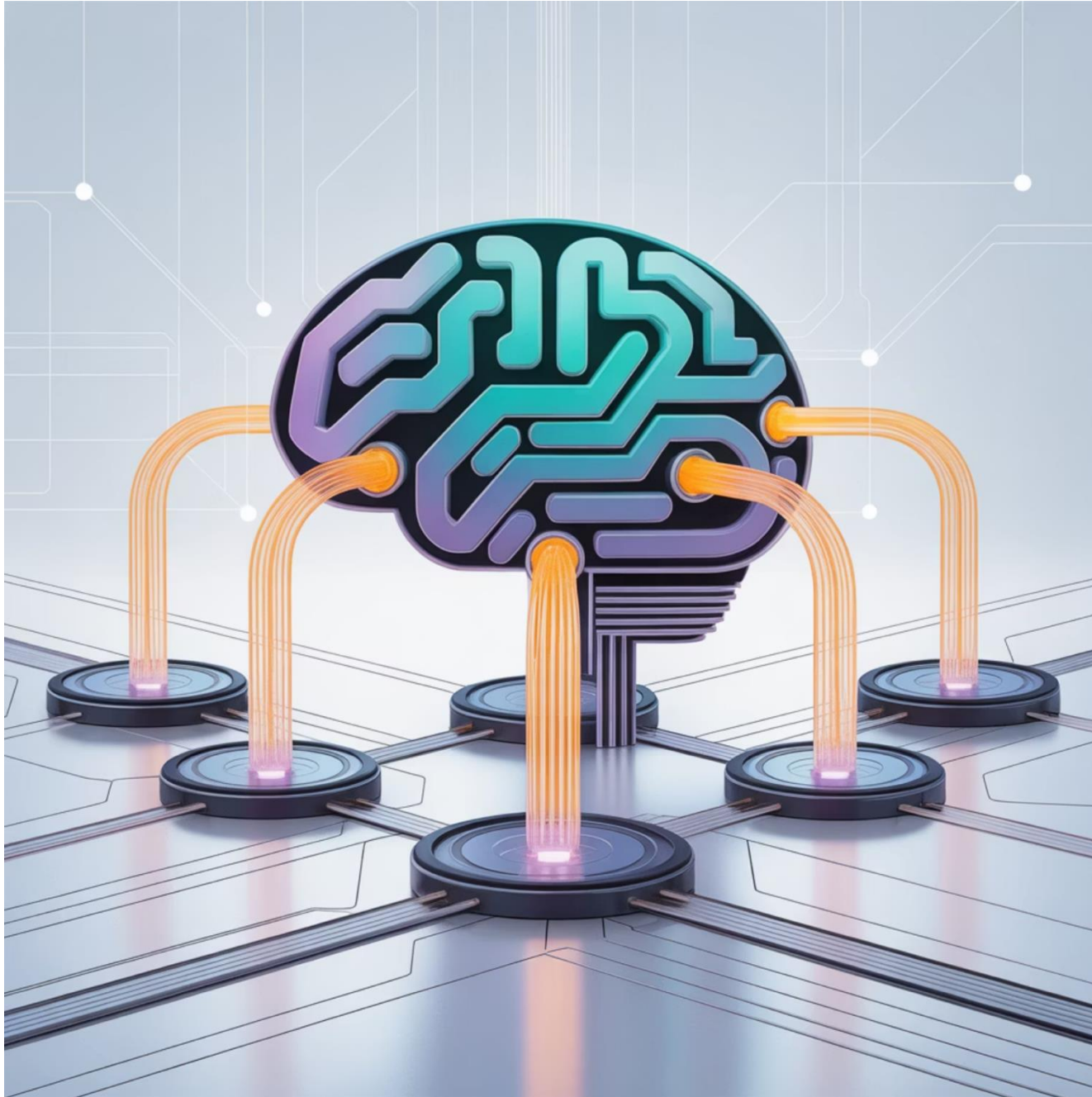
Focus on Workflows

Train specialized workflows, retrieval layers, and prompt sequences tailored to legal practice.

Ensure Compatibility

Design systems to be plug-and-play with any compliant language model.

Transportability = Power



Strategic Flexibility Advantages

- Move your legal intelligence across different LLM platforms
- Seamlessly adapt to varying client technology environments
- Avoid vendor lock-in while maintaining data security
- Achieve integration without data compromise

Without such flexibility, firms limit both themselves and their clients. Transportable systems allow clients to migrate between platforms while maintaining the option to delete their data from public models.



CONCLUSION

Transformation Is Inevitable

AI is here, and law is one of the most fertile fields for technological transformation.

Human-AI Partnership

Done right, legal AI enhances—not replaces—human capability, creating more effective legal representation.

Essential Principles

Successful implementation must be private, ethical, structured, and interoperable.

The Path Forward

Firms that train their AI on their own expertise—not just public data—will lead the next generation of legal practice.

PATENT OFFICE EXAM

BENEFIT FROM THE PLI EXPERIENCE

RECEIVE A **10%** DISCOUNT ON PLI'S PATENT OFFICE EXAM COURSE

PLI™


Register Now



The Ethics and Practicality of AI Assisted Patent Drafting



GENE QUINN & ANTHONY PROSSER & MARK VALLONE & SIVON KALMINOV & JOHN M. ROGITZ

AUGUST 31, 2023, 12:15 PM  3

“Considering some of the unrealistic and fanciful claims some vendors make about their tools, and their limited understanding of the complexities of patent practice, it is absolutely essential that AI tools and solutions be thoroughly vetted.”

Given current and ongoing economic realities, patent practitioners—both in-house and outside counsel—are constantly being asked to do more within existing budgets. Meanwhile, more robust patent applications thick with technical detail are necessary to satisfy courts and patent offices around the world. Working within budgetary constraints without sacrificing quality requires outside the box thinking and use of available tools to streamline as much of the process as possible.



Enter Artificial Intelligence (AI), which is taking the world by storm, and recently garnered the attention of the American Bar Association, which has just announced the creation of a task force that will examine the impact of AI on law practice and the ethical implications of its use for lawyers.

Thanks to ChatGPT, even those with only passing technological prowess are now familiar with the power of AI, and everyone has an opinion as to what AI can and cannot do, and should and should not do. But how do you use the power of AI in the innovation and patent realm without compromising confidentiality? And how do you know whether a particular AI solution is reliable and accurate? And for practitioners,

Proceed with Caution

The question about the appropriateness of the use of AI in the patent and innovation communities is not linear or absolute. There are times when the use of AI will be perfectly fine, even wise and necessary, such as with respect to conducting and reviewing searches. Provided that third-party vendors appropriately “fence in” their proprietary AI tools so data and information input to search is siloed and client technical data is not being used to cross-pollinate other searches—a real confidentiality concern—the use of AI searching tools seems perfectly appropriate. In fact, using AI may soon become necessary in order to uncover all the prior art that will be found by patent examiners, who themselves are increasingly using and can be expected to use AI tools.

Notwithstanding, the use of AI by practitioners while engaging in the practice of law must be carefully considered from both a legal and an ethical standpoint. This is particularly the case given the lack of understanding and sophistication of at least some providers who are pushing AI solutions without truly understanding the nature of patent practice. For example, one of the authors of this article was recently approached by a vendor who made various fanciful claims about how AI could revolutionize their work, including the following:

- Drafting patent applications, which normally is a 120-minute task, can be

- Preparing responses to office actions, which is normally a 90-minute task for a person, can be done in just 3 minutes.
- Responding to client inquiries, which is normally a 15-minute task, can be accomplished in less than a minute.

Anyone with even passing familiarity with patent practice would know that writing a patent application, even for something exceptionally simple, is more than a two-hour task. And responding to an office action takes more than 90 minutes given all the legal and ethical requirements that go into understanding the examiner's position, appreciating the meaning of the prior art cited, and the need to coordinate arguments across the patent family. Indeed, if drafting a patent application took two hours, and responding to office actions took only 90 minutes, there would be no need to streamline anything.

The ethical concerns presented when using artificial intelligence are not insurmountable but do require practitioners to engage in serious forethought and consultation with clients prior to using these tools. And considering some of the unrealistic and fanciful claims some vendors make about their tools, and their limited understanding of the complexities of patent practice, it is absolutely essential that AI tools and solutions be thoroughly vetted. This includes reading the fine print of any service agreement and even separately contracting for the specific needs of your client rather than accepting a standard service agreement that is offered.

Using AI Responsibly Today

Understanding how any AI solution collects, stores and uses the information provided seems a prerequisite to considering issues like confidentiality. And confidentiality is a big issue, not simply because of the potential—perhaps likely—loss of trade secrets, but because the rules of professional conduct require a duty of confidentiality and further include a requirement that practitioners adequately protect client information against even inadvertent disclosure (See [ABA Model Rule 1.6](#) and [USPTO Rule 11.106](#)). And practically speaking, clients absolutely will want to know how confidential information relating to their innovations is being used, stored and whether it will be leveraged by the AI tool for training purposes.

There is no doubt that AI drafting tools can already provide significant advantages in patent application preparation and prosecution, including rapid generation of content-rich output written in natural language text that is similar to what a human might write. While it will be some time, perhaps quite some time, before AI can replace human drafters, leveraging AI as a tool is possible today. For example, one of the particularly useful advantages AI can provide is with respect to generating portions of an application based on claim language, such as the abstract, summary, and a flowchart, completing forms to be filed with the patent office, and creating office action response shells. There are, however, patent, export, and other legal considerations with using such a tool, including but not limited to public disclosure

sources both within the United States and across the world. And depending on the terms and conditions applicable for the specific AI tool in question, it is entirely possible, if not likely, that the confidential information provided will be used to teach the AI, which will result either consciously or unconsciously in the AI using that information when prompted by others, including competitors.

Of course, there are other important considerations that go beyond loss of previously secret, confidential information. What is the security of the AI tool? What is the location of the server running the tool and will this potentially result in an export violation? And who is capable of claiming the subject matter generated by the tool, or in other words, who is the owner of the output, who is the inventor, and might you be incorporating something into a patent application that is actually owned by a competitor, thereby giving them a claim of ownership over the entire patent family?

Outside counsels should therefore have advance discussions with their clients about whether to use the tool or how to best mitigate risks associated with the use of AI in patent practice, in accordance with applicable rules of professional conduct. For example, ABA Model Rule 1.4(b) and USPTO Rule 11.104(a)(2) require a lawyer to “reasonably consult with the client about the means by which the client’s objectives are to be accomplished”, which per the associated ABA Rule comment, provides that “[i]n some situations — depending on both the importance of the action under consideration and the feasibility of consulting with the client — this duty will require

Informed Consent

Truly informed consent prior to using any AI assisted drafting tool as required by the rules—see ABA Model Rule 1.4 and USPTO Rule 11.104—should be based on a full, fair and accurate disclosure of the risks of using the AI tool in the manner planned by the outside counsel. Risks will depend on the situation, but there are several factors to consider. And one big area of concern already alluded to, is whether the AI tool’s terms of use include appropriate confidentiality and security provisions and prohibit use of client data for training the AI model? This is critical to consider because if you use a particular AI solution to craft a portion of a description for a patent application, it is necessary to understand whether that AI tool will internalize the information provided and continue to include that information as part of its corpus that it will learn from and pull from when engaging with future users. And this is not a fabricated issue or concern. For example, with ChatGPT, there is a big difference between the terms of service applicable when one uses the online tool versus when one is using the tool via API. When using ChatGPT online, the terms and conditions specifically allow OpenAI to incorporate any input into the training set used to teach the AI tool moving forward, while the same is not necessarily true with respect to use of ChatGPT via API.

Other concerns that must be addressed if a client is going to truly provide informed consent include, in no particular order:

- Does the AI tool have proper security certifications, such as SOC2?; and
- What portions of the patent application will the AI tool generate, and is there the possibility that the generated output will include third-party copyrighted material, competitor material, “hallucinations”, or material that didn’t originate with the inventors but could be claimed?

Duty to Supervise

Even if the client gives informed consent, the patent attorney or agent still has to carefully manage the use of AI to ensure that they are providing competent representation to the client. See [ABA Model Rule 1.1](#) and [USPTO Rule 11.101](#). At present, AI tools cannot be expected to understand the nuances of recent case law, changes in patent rules, recent competitor publications, or even changes in international patent prosecution. The patent practitioner utilizing the AI tool has to constantly check the accuracy of the output and further augment and edit the output to ensure it meets the requirements of the ever-evolving IP landscape. Failure to check AI output for accuracy recently resulted in fines against attorneys who submitted a court brief with fake citations to the law. See [Mata v. Avianca, Inc.](#), No. 22-cv-1461 (PKC), 2023 U.S. Dist. LEXIS 108263 (S.D.N.Y. June 22, 2023)

There is a requirement for managing practitioners to supervise those who work for them, as well as non-attorneys and non-practitioners employed or engaged to

to supervise extends to supervising the output of AI tools, as well as third-party vendors who offer patent drafting services using their own proprietary AI solutions. So, to truly get the informed consent required, clients will want to know, and the ethical rules almost certainly require, a patent attorney or agent to proofread and edit the generated content to mitigate or eliminate the aforementioned risks. Moreover, prior to using AI drafting tools it is important for practitioners to also answer: What will the responsible patent attorney or agent do to ensure the accuracy and reliability of the output of any AI tool prior to incorporation into a patent application or use in an office action response?

Image Source: Deposit Photos

Author: ankabala

Image ID: 650667620



GENE QUINN

Gene Quinn is a patent attorney and a leading commentator on patent law and innovation policy. Mr. Quinn has twice been named one of the top 50 most influential people [[...see more](#)].



ANTHONY PROSSER

Anthony R. Prosser, Ph.D., is a Partner at Knowles Intellectual Property Strategies (KIPS) in Atlanta, Georgia. Tony focuses on complex organic chemistry patent matters including drafting and prosecuting U.S. and [[...see more](#)].



MARK VALLONE

Mark Vallone is Chief Patent Counsel, Americas at IBM, where he manages the company's patent procurement team in the Americas and its patent portfolio management team, and where he serves as [\[...see more\]](#).



SIVON KALMINOV

Mr. Sivon Kalminov is the Director of the Canon U.S.A., Inc., Intellectual Property Division. He is responsible for managing the Division's day-to-day patent prosecution work, which includes overseeing both the [\[...see more\]](#).



JOHN M. ROGITZ

John M. Rogitz is a second-generation patent attorney that currently serves as Managing Attorney at Rogitz & Associates. He is also a member of the IPWatchdog Advisory Committee and an [\[...see more\]](#).

Warning & Disclaimer: The pages, articles and comments on IPWatchdog.com do not constitute legal advice, nor do they create any attorney-client relationship. The articles published express the personal opinion and views of the author as of the time of publication and should not be attributed to the author's employer, clients or the sponsors of IPWatchdog.com.



Pro Say

August 31, 2023 05:50 pm

Coming soon to a courtroom near (or far from) you:

Discovery requests for any AI use in the preparation and prosecution of patents which are being asserted.

Yet another tool in the tool box of infringers and courts to trash patents.

Whoa, Nelly!

[View Comments](#)



At IPWatchdog.com our focus is on the business, policy and substance of patents and other forms of intellectual property. Today IPWatchdog is recognized as the leading sources for news and information in the patent and innovation industries.

© 1999 – 2025 IPWatchdog, Inc.

Images on IPWatchdog Primarily Provided by



PATENT OFFICE EXAM

BENEFIT FROM THE PLI EXPERIENCE

RECEIVE A **10%** DISCOUNT ON PLI'S PATENT OFFICE EXAM COURSE

PLI™

Register Now



The Ethics of Using Generative Artificial Intelligence in the Practice of Law



GENE QUINN

JUNE 7, 2023, 04:15 PM



“For those who are destined to use generative AI tools like ChatGPT, the ethical concerns presented are not insurmountable but do require practitioners to engage in serious forethought and

The use of Artificial Intelligence (AI) has taken center stage in popular culture thanks to the significant advances of tools like ChatGPT. Of course, the use of these new, high-powered AI tools presents real issues for businesses of all types and all sizes. Notably, Samsung employees shared confidential information with ChatGPT while using the chatbot at work.



Subsequently, Samsung decided to restrict the use of generative AI tools on company-owned devices and on any device with access to internal networks. Concerned about the loss of confidential information, Apple has likewise restricted employees from using ChatGPT and other external AI tools.

The actual or potential loss of confidential information is a matter of critical importance to technology companies, but it also must be of the utmost concern for all attorneys who have an ethical obligation to keep client information confidential.

The confidentiality concerns presented when using generative AI—which is a particular type of AI that can produce various types of content when prompted—must be thoroughly understood and appreciated. For example, do you know whether the AI

AI Won't Keep Your Secrets

According to ChatGPT, information submitted through the OpenAI API is not used to train the OpenAI models or to improve OpenAI's service offerings. However, data submitted through non-API consumer services such as ChatGPT can be used on a going forward basis to improve the model. So, once information is submitted through ChatGPT, the AI can use the information to inform itself and answer the queries of others, which almost certainly means that information is no longer a trade secret. And it would be a gigantic failure of one of the most basic ethical requirements if such information were shared by an attorney or patent practitioner ethically required to maintain such information in confidence.

Recall that Rule 1.6(a) of the American Bar Association (ABA) Model Rules of Professional Conduct prohibits a lawyer from revealing "information relating to the representation of a client unless the client gives informed consent..." The U.S. Patent and Trademark Office (USPTO) Rules of Professional Conduct similarly prohibit patent practitioners from revealing "information relating to the representation of a client unless the client gives informed consent..." See 37 CFR 11.106(a). Both Rule 1.6 and Rule 11.106 further require practitioners to "make reasonable efforts to prevent the inadvertent or unauthorized disclosure of, or unauthorized access to, information relating to the representation of a client." Of course, the USPTO Rules do have a caveat not present in the ABA Model Rules, which requires practitioners to "disclose to the

The 'What ifs'

Whether or how one can comply with Rule 11.106(c) when generative AI tools are used remains an open question. For example, how do you know where the information came from if you rely on information from ChatGPT? Without knowing where the information provided by ChatGPT comes from it is impossible to know what you may be incorporating into a patent disclosure. If the practice of blanket incorporation by reference under 37 CFR 1.57 is problematic (e.g. because you don't take the time to *really* know what is being included that may or may not be contradictory) the blind incorporation of material provided by a generative AI tool like ChatGPT could be catastrophic. Is the information being provided culled from competitors and you are about to include that information into your patent application? What will that mean for ownership down the road if any of that information is relied upon in a claim? Would it be possible for a competitor to demonstrate that what you included was derived from information ChatGPT included in its corpus—from whatever source—and since you have used it in a claim there is an unidentified inventor lurking that could, through successful petition or lawsuit, later be found to be a co-inventor, thereby sharing ownership interests?

Of course, even given the confidentiality risk, loss of rights to trade secrets, and not knowing where the provided information came from, which all go along with the use of a generative AI tool like ChatGPT, it can still be a very tempting tool. When

and even provide text relative to some aspects of an innovation—hopefully limited to whatever discussion of the prior art you will provide in the background, or to provide context to the reader so as to demonstrate the benefits provided by the innovation. And in a world where both the Federal Circuit and Supreme Court continually demand more disclosure in patent applications, and clients simultaneously demand patent professionals do more for less money, everyone is looking for ways to cut corners without crippling quality. So, from a risk-reward perspective, the use of generative AI tools may be too beneficial to pass up.

For those who are destined to use generative AI tools like ChatGPT, the ethical concerns presented are not insurmountable but do require practitioners to engage in serious forethought and consultation with clients prior to use.

Informed Consent and Competence

ABA Rule 1.4 requires a lawyer to “promptly inform the client of any decision or circumstance with respect to which the client’s informed consent... is required...” *See* Rule 1.4(a)(1). A lawyer is also required to “explain a matter to the extent reasonably necessary to permit the client to make informed decisions...” *See* Rule 1.4(b). Lawyers are also required to “reasonably consult with the client about the means by which the client’s objectives are to be accomplished.” *See* Rule 1.4(a)(2). The USPTO Rule—37 CFR 11.104—mimics the ABA Rule.

Understanding how generative AI solutions collect, store and use the information that will be provided is a prerequisite for the informed consideration of issues like confidentiality, and ultimately communicating with clients to obtain fully informed consent. For example, as you use a particular AI solution to craft a portion of a description for a patent application, will that AI internalize the information provided and continue to include that information as part of its corpus that it will learn from and pull from when engaging with future users? As already mentioned, ChatGPT sometimes will use that information, and sometimes it won't. Knowing the specific terms and conditions associated with the use of the AI tool is required to reasonably consult with the client and explain the matter to the extent necessary to make an informed decision whether to authorize the use of generative AI tools. *See* ABA Rule 1.4 and USPTO Rule 11.104.

And perhaps on the most basic level, the rules of professional conduct require competence. "A lawyer shall provide competent representation to a client," reads [ABA Rule 1.1](#) and is mimicked by [USPTO Rule 11.101](#). With competence being defined as requiring legal, scientific and technical knowledge, skill, thoroughness and preparation reasonably necessary for the representation." Rule 11.101, which is similar to ABA Rule 1.1 except for the general ABA provision does not mandate scientific and technical knowledge.

Emphasizing the requirement that practitioners exhibit the requisite level of

For example, I had a conversation with ChatGPT through which the topic of the Patent Trial and Appeal Board (PTAB) arose. ChatGPT referred to the judges as Administrative Law Judges, which is inaccurate. The judges who make up the PTAB are Administrative Patent Judges, not ALJs. Perhaps a small distinction on its face, but as the conversation proceeded, this fundamental misunderstanding led ChatGPT to additional erroneous conclusions, including that there is a requirement that PTAB judges have seven years of legal experience to be hired. Indeed, many dozens of APJs without even five years of legal experience have been hired by the USPTO to be PTAB judges. And when asked where this erroneous information was coming from, ChatGPT refused to answer the question. Still, the answers provided were given with an air of authority and credibility that it would be easy for someone not completely and thoroughly knowledgeable to succumb to the erroneous information being provided.

The duty of competent representation almost certainly requires more of lawyers and patent practitioners than generative AI tools like ChatGPT are currently capable of providing. This does not mean that it cannot be useful, assuming the hurdles relating to confidentiality and informed client consent have been addressed, but the blind use of ChatGPT by licensed professionals almost certainly will not be sufficient to rise to the level of expected competence by ethics officials. In other words, arguing that the information provided by ChatGPT seemed credible and reliable will likely not satisfy the threshold of competence expected should things go terribly wrong, which is generally the prerequisite to an ethical investigation and broader ethical inquiry.

Finally, whatever decisions are made by the practitioner and firm with respect to the appropriate protocol for considering use of generative AI, communicating with clients to get informed consent and verifying the information, it is critical that all managing practitioners remember they have a duty to supervise those who work for them, as well as non-attorneys and non-practitioners employed or engaged to facilitate the representation of the client. See ABA Rule [5.1](#) and [5.2](#), and [USPTO Rule 11.501 et seq.](#)

Image Source: Depoist Photos

Image ID: 651971872

Author: Primakov



GENE QUINN

Gene Quinn is a patent attorney and a leading commentator on patent law and innovation policy. Mr. Quinn has twice been named one of the top 50 most influential people [...[see more](#)]

Warning & Disclaimer: The pages, articles and comments on IPWatchdog.com do not constitute legal advice, nor do they create any attorney-client relationship. The articles published express the personal opinion and views of the author as of the time of publication and should not be attributed to the author's employer, clients or the sponsors of IPWatchdog.com.



Mike Cicero

June 9, 2023 10:59 pm

Our website uses cookies to provide you with a better experience. Read our [privacy_policy](#) for more information. ACCEPT AND CLOSE

...ments as before concerning use of the technology, to help prevent front-end errors, especially,

their patent-related matters.

[View Comments](#)



At IPWatchdog.com our focus is on the business, policy and substance of patents and other forms of intellectual property. Today IPWatchdog is recognized as the leading sources for news and information in the patent and innovation industries.

© 1999 – 2025 IPWatchdog, Inc.

[Terms & Conditions of Use](#) | [Privacy Policy](#)

Images on IPWatchdog Primarily Provided by



Our website uses cookies to provide you with a better experience. Read our [privacy_policy](#) for more information. ACCEPT AND CLOSE



PROMPTING SERIES · PART IV

How I Prompt AI

Claim Charts & Tool Stacks

CLE ELIGIBLE

Live interactive webinar · Real-time demonstrations · Q&A

Brett Hertzberg · **Craig Macy** · Moderated by Yuri Eliezer

WELCOME

Today's Panel

MODERATOR

Yuri Eliezer

CEO, Junior

Builder of AI workflows for the patent
lifecycle

PANELIST

Brett Hertzberg

In-House Counsel, Dolby

Claim charting — product mapping, SEP
SEP analysis, family analysis

PANELIST

Craig Macy

Patent Attorney, Macy Peters Law

Tool-stack sequencing — from claims to
drawings

AGENDA

Session Roadmap

5 min	Welcome & Junior in Sixty Seconds	Yuri Eliezer
20 min	Claim Charting for Product Mapping	Brett Hertzberg
20 min	Tool Stacks for Multi-Segmented Prosecution	Craig Macy
5 min	Confidentiality & Professional Responsibility	Panel
10 min	Questions & Discussion	Everyone

Ethics / professional-responsibility credit requested for the confidentiality segment — final allocation is jurisdiction-dependent.

— OUR SPONSOR

Junior in Sixty Seconds

One workspace for the patent lifecycle — drafting, prosecution, and analysis with an AI associate that cites its work.

Claim charts & product mapping

Element-by-element read-on with confidence scoring

SEP essentiality analysis

Map claims against published standards

Office Action Sifter

Rejection grids, argument analysis, save-to-notes

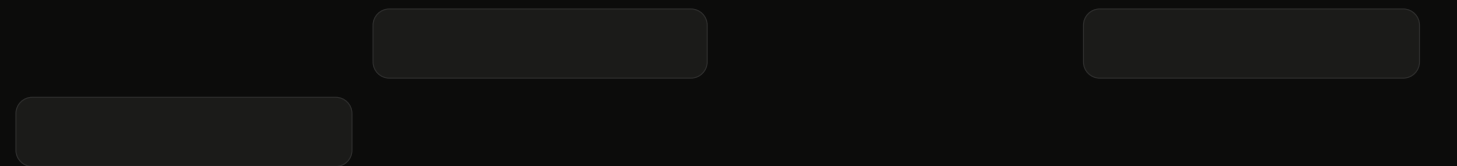
Examiner analytics

History and statistics for the examiner on your case

CLAIM CHART



OA SIFTER



JR

Element 1[c] maps at 81% — see ¶ [0042] of the spec.

PART ONE

Claim Charting for Product Mapping Mapping

Brett Hertzberg

In-House Counsel, Dolby

How Generative AI Actually Thinks

01 Forward propagation only

No reflection, no revision — the model builds context in one direction.
direction.

02 Every prompt narrows the context

Each question consumes memory and constrains what comes next.

03 The desaturation point

When available memory runs out, you get hallucinations and nonsense.
nonsense.

04 The only cure is a reset

Forward-only tools can't back up — start a fresh session.

CONTEXT SATURATION OVER A SESSION



Clean context

Useful range

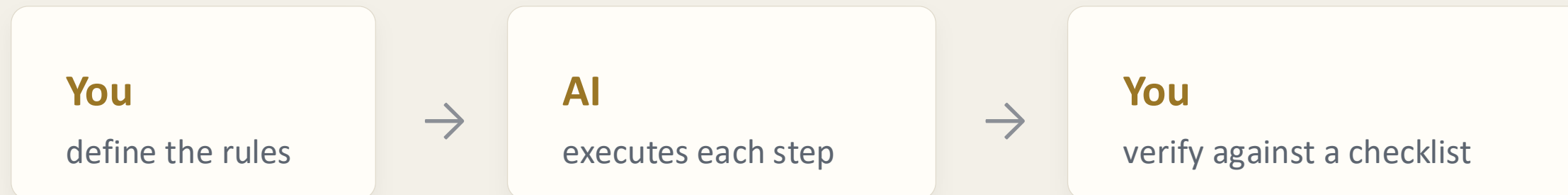
Desaturation → hallucination

Plan your session to finish the job **before** the red zone — or split it
across sessions.

The Co-Pilot Principle

“ The reason it's called co-pilot is because you have to be there with it — or it's going to go off the rails.

Brett Hertzberg



Breaking the Problem into Linear Steps

ONE COMPLEX ASK

“Build me a claim chart that maps all of my claims to a product.”

Actually three or four tasks in disguise

No rules, no definition of success

Burns context fast → desaturation

1 **Define the chart template**
Columns, rows, and criteria for each field

2 **Break the claim into elements**
Define what an element is — and what success looks like

3 **Distill a feature list**
A tokenized shorthand of each element and its limitations

4 **Map features to the product**
Token-by-token matching, scored for confidence

One agent per step. Clear rules and a checklist for each. No recursion, no reflection.

The Agent Specification

Before any prompting — write the spec. Five things, for every agent in the chain.

1 Define the purpose

One agent, one job — extraction, ranking, or mapping. Never all three.

2 List required inputs and outputs

What it receives, what it must hand to the next step.

3 Provide an example output

Show the shape of a correct answer before asking for one.

4 Give positive and negative rules

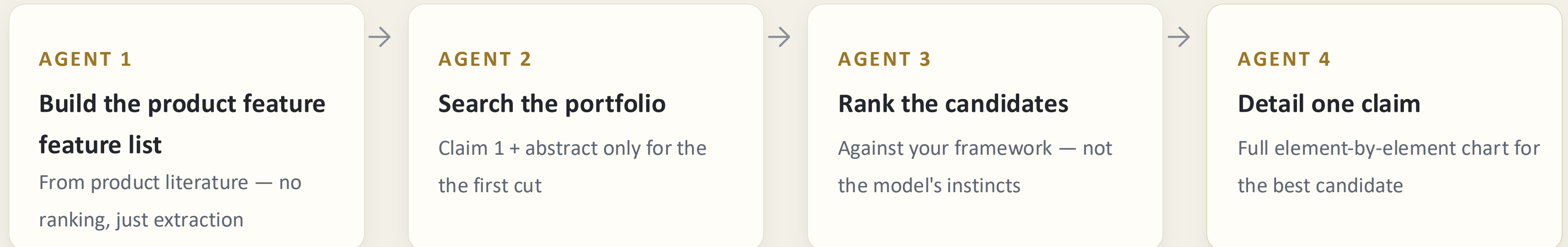
What to always do — and what is out of bounds.

5 Build a self-check checklist

The agent confirms its own output stays on target before it returns.

The Product-Mapping Pipeline

Four agents, each with its own spec — context never saturates, and every hand-off is checkable.



Anatomy of a Claim Chart

COL 1

Claim element

The literal claim text, split element by element

Why: the legal anchor — every read-on argument starts here

COL 2

Technical feature

The abstract, tokenized shorthand of the element

Why: tokens are what the model can actually match

COL 3

Mapping confidence

Language exactness + token-percentage match

Why: separates a good mapping from wishful thinking

COL 4

Gaps & interpretation notes

What doesn't read on, and the construction it depends on

Why: this column is where the lawyering happens

Decide the template first — columns, rows, and entry criteria — before the model sees a single claim.

A Worked Example

THE PATENT

US 11,842,310

“Adaptive Ambient-Aware Noise Cancellation” — Meridian Acoustics

- 1[a] microphone array capturing ambient audio
- 1[b] classifier assigning an acoustic scene profile
- 1[c] adaptive filter adjusting attenuation per profile
- 1[d] transparency controller passing speech on a voice event

VS

THE ACCUSED PRODUCT

Aurora Buds Pro

Feature list distilled from public product literature

- F1 six-microphone ambient capture array
- F2 “SceneSense” environment detection
- F3 adaptive ANC with per-scene levels
- F4 “VoicePass” always-on conversation mode

Sanitized teaching example — patent, parties, and product are fictional.

Junior Builds the Chart

Universe Portal · Claim Charts · US 11,842,310 → Aurora Buds Pro
Mapping complete

CLAIM ELEMENT	TECHNICAL FEATURE	CONFIDENCE	GAPS & NOTES
1[a] microphone array capturing ambient audio	F1 · six-mic capture array	96%	Literal overlap on "microphone array"
1[b] classifier assigning an acoustic scene profile	F2 · SceneSense detection	88%	"Scene profile" ≈ marketed "environments"
1[c] adaptive filter adjusting attenuation per profile	F3 · adaptive ANC levels	81%	Per-scene levels imply coefficient updates
1[d] transparency controller passing speech on a voice event	F4 · VoicePass mode	54%	GAP Always-on vs. detected voice event

JR

Junior

Claim chart workspace

Map claim 1 of US 11,842,310 against the Aurora Buds Pro feature list. Score each element and flag any gaps.

JUNIOR

Tokenizing 4 claim elements and matching against the product feature list...

JUNIOR

Three elements map above 80%. Element 1[d] is a partial read — VoicePass is always-on, while the claim requires a *detected voice event*. Flagged as a gap with spec citations.

Save to notes

Export chart to Word

Reading the Results

ABOVE 80%

Strong reads

Elements 1[a]–1[c] match on language and tokens. These anchor the infringement theory.

54% — THE GAP

Element 1[d]

The claim requires a *detected voice event* ; VoicePass is always-on. The mapping turns on claim construction.

NEXT STEPS

The gap is the work

Construction position, discovery targets, or a design-around watch — the notes column tells you where to spend lawyer time.

Confidence scores don't decide infringement — they decide where you look next.

Where AI Judgment Fails

THE INNOCENT QUESTION

“What are the top five most important features of this invention?”

Three hidden tasks: find, rank, select

No rules supplied for any of them

The model ranks by frequency, not novelty

- 1 Extract — no judgment**
“List all distinct features of the disclosure. Don't rank them.”
- 2 Rank — with your framework**
A second agent scores the list against rules you supply
- 3 Select — per your criteria**
Only now do you take the top N

Don't ask the model for judgment. Give it a framework and ask for evaluation.

PART TWO

Tool Stacks for Multi-Segmented Segmented Prosecution

Craig Macy

Patent Attorney, Macy Peters Law

Prompt Engineering Is the Smallest Piece

Workflow management



Which steps, in which order, with which hand-offs

Tool selection



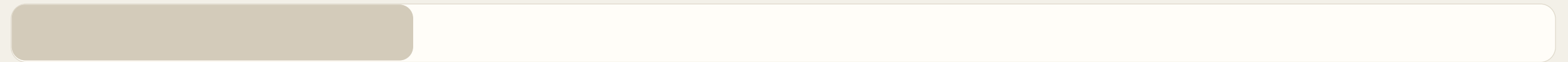
The right tool for each step — capabilities fluctuate weekly

Context engineering



What the model knows when you ask

Prompt engineering



The words in the box — table stakes

“ No one's going to be talking about prompt engineering in six months.

They'll be talking about all the other stuff.

Craig Macy

The Hub-and-Satellite Stack



“Junior at the center — everything else is a satellite. It goes out, it comes back.”

The Two-Document Method

DOCUMENT ONE

“The Brain”

A per-matter context repository. Every decision, definition, and clarification lands here — and persists across sessions.

-
- Builds context once, reuses it forever
 - Not married to any single draft
 - Instant access to everything the matter knows

CONTEXT
FLOWS



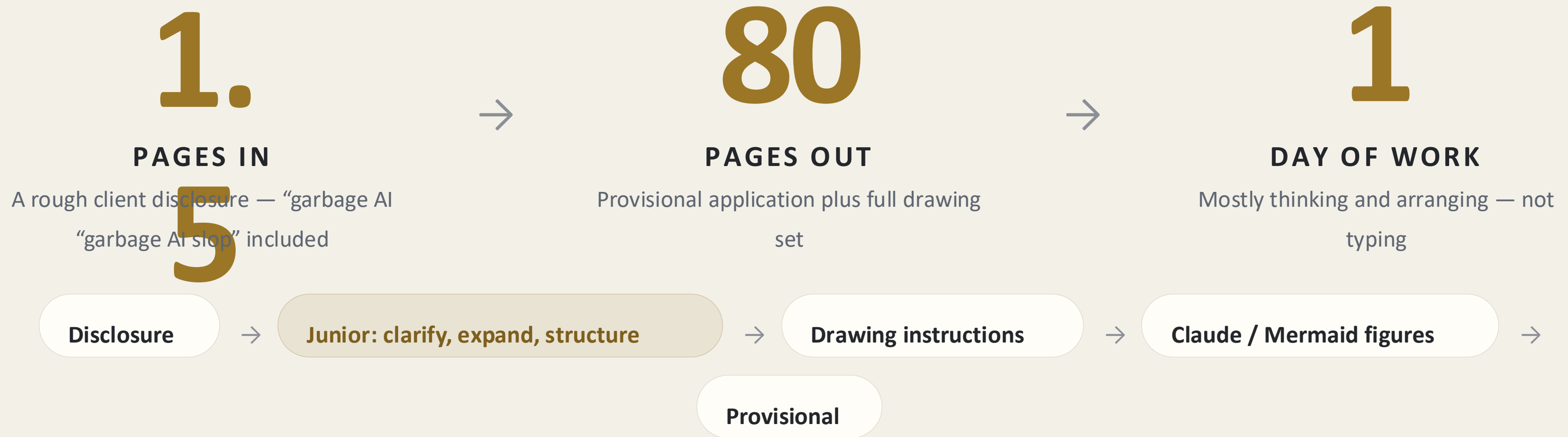
DOCUMENT TWO...N

The Working Docs

The actual drafts — specification, claims, responses. Several open at once, each pulling from the brain.

-
- Revisions and edits stay isolated
 - Run more than one document in parallel
 - A bad draft never pollutes the context

Disclosure to Provisional in a Day



“They got a bargain no practitioner could have produced two years ago.”

The Drawings Workflow

START IN JUNIOR

Drawing instructions

Generated from the spec — figure list, reference numerals, what each figure must show.

Workflow diagrams



Mermaid

via Claude-generated
JavaScript

Everything else



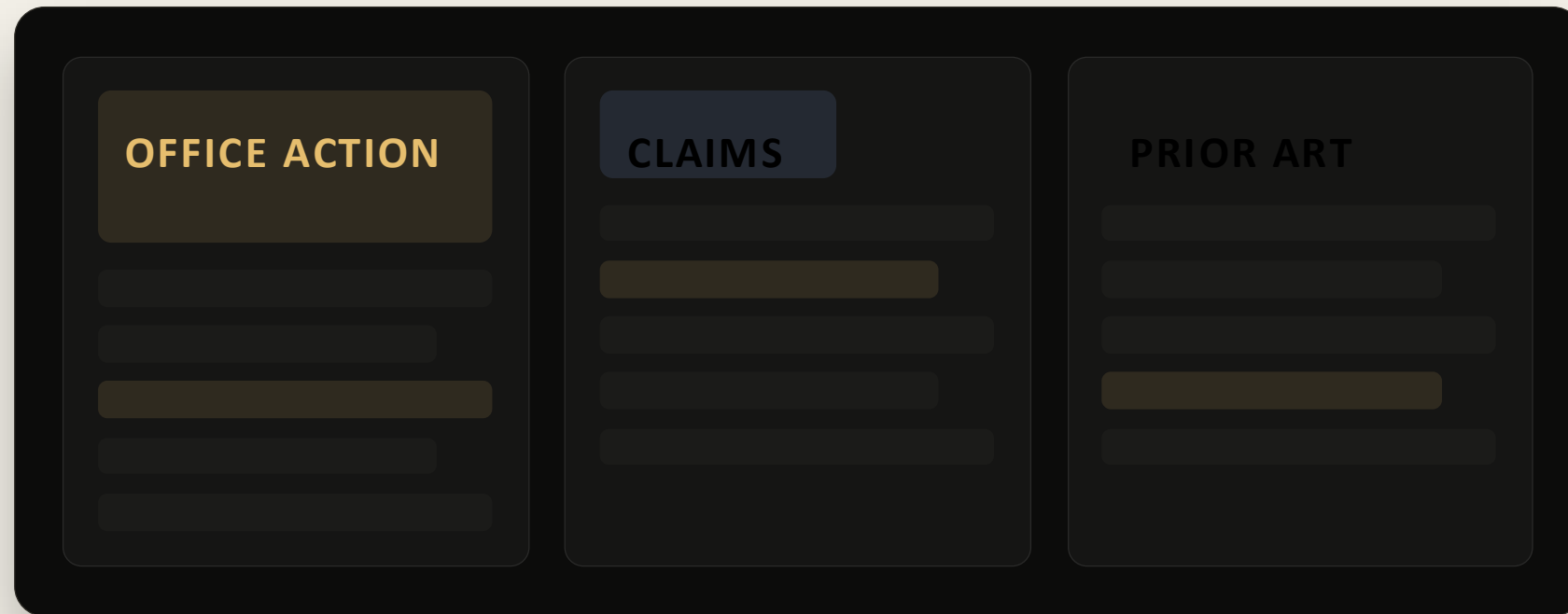
Claude

system diagrams, structures,
UIs

CAPABILITIES FLUCTUATE

Mermaid's new AI interface produced “absolute garbage nonsense.” Claude once couldn't handle arrows at all. Re-test the stack — what worked last month may not work today.

Office Actions in the Sifter



Side-by-side documents

OA, claims, and cited art in one view — Junior reads all three

Rejection grids

Claim elements × examiner rejections, cell by cell

Ask for arguments

“What's a good §103 argument here?” — grounded in the documents

Save to notes

Chats, grids, and highlights export to Word with one click

Examiner Argument Analysis

Universe Portal · Sifter · App 17/845,221 — Office Action of May 4, 2026

Analysis saved to notes

Examiner T. Nakamura

TN

Nakamura

Art Unit 2657 · Speech & Audio

Allowance rate



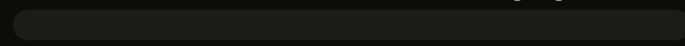
62% · AU avg 71%

Allowance after interview



78%

§103 maintained after reply



41%

Interviews move this examiner. examiner. Written replies alone alone succeed less often.

REJECTIONS × CLAIM ELEMENTS

	1[a]	1[b]	1[c]	1[d]
§103 · Hsu + Borgen				
§112(b) · clarity				

Element 1[c] selected — rejected under §103 over Hsu (US 10,224,887) in view of Borgen (US 2019/0122034)

JR

Junior

Argument analysis

What's our strongest §103 argument for element 1[c]?

JUNIOR

Motivation to combine is weak. Hsu's coefficients are static per device profile (col. 6:42–55); Borgen warns runtime updates “degrade stability” (¶ [0042]) — arguably teaching away.

SUGGESTED NEXT STEP

78% allowance after interview — consider requesting one before filing the reply.

Save to notes

Import into Word

Validated Hand-offs

Brett's checklists and Craig's stack converge on the same rule: a stage isn't done until its output is verified as the next stage's input.

1 Define the output schema up front

The receiving tool's required format is part of the sending tool's prompt.

2 Check against the example

Compare the output to the example output in the agent spec before passing it on.

3 Keep citations attached

Every assertion carries its pin cite — column, paragraph, or page — through the chain.

4 Save the validated state

Notes, grids, and highlights become the context the next session starts from.
from.

The Rising Standard of Care

“ If I had to sit down and write it myself today, I'd be on the borderline of malpractice — given what I know and how things work.

Craig Macy

The book-research precedent

When research moved online, “I couldn't access it” stopped being a defense. AI is repeating that shift — faster.

Engagement letters

Craig's letters disclose his AI workflow in depth. Clients who object get a different conversation — and a different price.

CLOSING SEGMENT

Confidentiality & Professional Responsibility

Full Panel

Ethics / professional-responsibility credit segment

Keeping Client Data Siloed

MINIMAL-NECESSARY CONTEXT

Each tool in the chain sees only what its stage requires. Chaining tools multiplies exposure — control context size at every hand-off.

PSEUDONYMIZATION & REDACTION

Strip parties, products, and identifiers before public endpoints. Re-attach them only inside controlled tools.

ZERO-RETENTION VENDOR SETTINGS

Verify training opt-outs and retention windows in writing — for every model in the stack, not just the first one.

PRIVILEGED-DATA BOUNDARIES

Confidential workflows stay in purpose-built, siloed tools. Public LLMs get sanitized fact patterns only.

A Defensible AI Policy

Rule 1.1

comment 8
1.1

Technology competence

Know what your tools do — and document that you keep current.

Rule 1.6

Confidentiality

Written siloing protocol for every tool that touches client data.

Rule 5.3

Vendor oversight

Treat AI vendors as non-lawyer assistance — diligence and supervision on record.

Rule 1.4

Client communication

Disclose the workflow, its risks, and its benefits — engagement letter, not afterthought.

Write it down. A policy you can't produce is a policy you don't have.

— OPEN FLOOR

Questions & Discussion

Brett Hertzberg

claim charting · product mapping

Craig Macy

tool stacks · prosecution workflow

Yuri Eliezer

Junior · AI for the patent lifecycle



See Junior in Action

Everything you watched today — claim charts, the Sifter, examiner
examiner analytics — is live in the Universe portal.

[Book a demo · junior.law](#)

Thank you — Brett Hertzberg · Craig Macy · Yuri Eliezer