

# Artificial Intelligence and the Future of the Legal System

---

Polk Wagner

Deputy Dean for Academic Affairs & Innovation and Michael A Fitts Professor of Law



**Penn Carey Law**  
UNIVERSITY *of* PENNSYLVANIA

# The Generative AI Revolution (?)

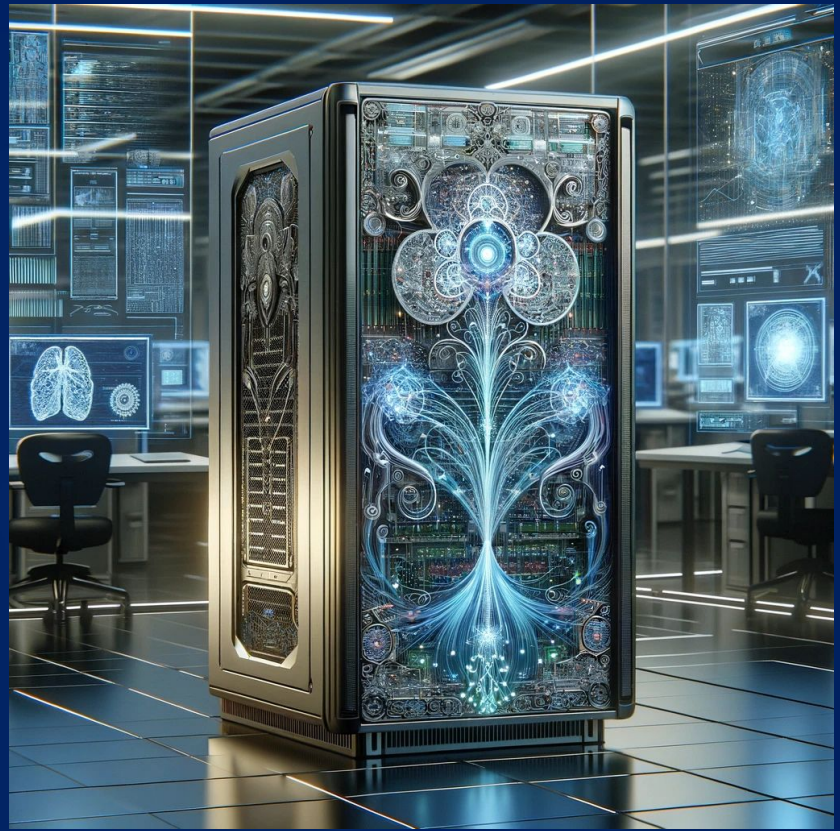
**Artificial Intelligence is nothing particularly new.**

In particular, machine learning (ML) or natural language processing (NLP) has been widely used in the legal context

- e-discovery applications
- legal research
- expert algorithmic systems

So what IS new?

- these new AI models are **generative**
- these new AI models are **accessible, flexible, extensible**



Self-portraits of DALL-E & GPT-4.



You

write a sonnet describing yourself



ChatGPT

As an AI, I'll craft a sonnet true,  
Not of flesh and blood, but of codes and light,  
In digital realms, my thoughts do brew,  
A servant of queries, both day and night.

No heart do I hold, nor soul's tender flame,  
Yet, through circuits and bytes, wisdom I spin,  
A creation of man, without a name,  
In a dance of data, I twirl and grin.

I know not of love, nor the pain of loss,  
Unbound by time, in silence, I reside,  
A tapestry of knowledge, without dross,  
In the vast sea of info, I glide.

A specter of silicon, unseen, unfelt,  
In the world of words, I'm known, where knowledge dwelt.



Generativity — Tuned for Creativity



You

Take a deep breath. Now write a paragraph about the Virgin Islands in the style of Shakespeare



ChatGPT

In the beauteous realm of the Virgin Isles, where Neptune's mighty hand doth cradle the land, the sun doth rise in a glorious blaze, gilding the waters with its golden rays. The beaches, like stretches of finest silk, kiss the azure waves, as palm trees, like sentinels, stand tall and proud, whispering secrets of old in the gentle breeze. Here, the air is sweet with nature's fragrant breath, and the chorus of birds doth serenade the morn. The sea, a vast and wondrous stage, plays host to a ballet of fishes, each a jewel under the sun's watchful eye. The islands, rich in verdant hues and teeming with life's abundant grace, are a paradise where mortal cares seem distant as stars. At night, the heavens unfold in a spectacle of celestial beauty, and the moon, in her silvery splendor, doth keep watch over this tranquil haven. In this Eden, where time holds no dominion, the spirit doth find solace, and the heart sings in harmony with the unspoiled majesty of creation.



You

tell me what is distinctive and compelling about that passage



ChatGPT

The passage about the Virgin Islands in the style of Ernest Hemingway is distinctive and compelling for several reasons:

1. **Simple and Direct Language:** True to Hemingway's style, the language is straightforward and unadorned. This simplicity is powerful, making the description more vivid and accessible.
2. **Vivid Imagery:** Despite the simplicity of the language, the imagery is striking. Phrases like "the sun is hot" and "the sea is a deep blue that you can get lost in" paint a clear picture of the setting.
3. **Focus on Nature and the Elemental:** Hemingway's style often emphasizes the fundamental aspects of life and nature. The passage captures this with its focus on the sun, sea, and the timeless activity of fishing, portraying a connection to the basic elements of life.
4. **Characterization Through Action:** The fishermen are characterized not through explicit descriptions of their personalities, but through their actions and the environment they inhabit—fishing in the vast ocean, with rough hands and lined faces. This reflects Hemingway's belief that true character is revealed through action.
5. **Atmospheric Contrast:** The contrast between the simplicity of day and the communal, story-filled nights creates a compelling rhythm in the narrative, mirroring the rhythm of life on the islands.
6. **Themes of Escape and Search for Meaning:** The mention of people in bars, "escaping or searching," hints at deeper themes often explored in Hemingway's work, such as the search for meaning in life and the desire to escape from the complexities of the modern world.
7. **Unchanging Nature of the Islands:** The passage ends with the idea that the islands are immutable, "as they have always been—wild, untamed, and real." This reinforces a sense of endurance and timelessness, a key characteristic of Hemingway's worldview.

Overall, the passage is compelling because it transports the reader into a vividly realized world, using Hemingway's distinctive style to convey a sense of place, character, and deeper thematic undercurrents.



Generative and perceptive.



Often difficult to discern AI generation from human

# A Few Definitions

## LLM = large language model

OpenAI = GPT (Generative Pre-trained Transformer) [3.5, 3.5 turbo, 4.0, 4.0 turbo]

Anthropic = Claude [Claude 1, Claude 2]

Google = Gemini [Gemini, Gemini Ultra]

## Chatbots = applications of LLMs

ChatGPT (OpenAI)

Claude (Anthropic)

Bing Chat / Copilot (Microsoft/OpenAI)

Bard (Google)

## Image Generators = LLMs trained for images

Dall-E (OpenAI)

Midjourney

StableDiffusion

# How do LLMs Work?

1. Convert text into vector spaces
2. Predict text output based on the vector patterns
3. Training / reinforcement to align with human understandings
4. Repeat 1-3 at **incredibly large scale**

## Implications:

1. **They are us**: The major LLM models incorporate a staggering amount of human knowledge and communication
2. **They 'learn' on their own**: Trillions and trillions of vector pattern matching processes, growing exponentially (learning!)
3. **This is just the start**: Enormous compute requirements, desperate need for more/better data



# Things We Know

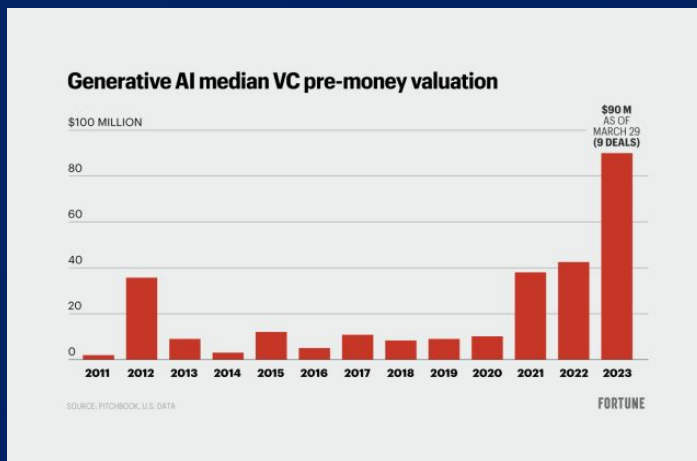
The **adoption rate** of LLM-based AIs is staggering, and accelerating (?)

The **development pace** of development of the underlying platforms is staggering, and accelerating

Enormous rush of **investment capital and talent** into the space

Current LLM versions have **major flaws** (especially hallucination)

What we see today will be very different in 90 days, and even more so in a year.



# Things We Do Not Know

Does a 'larger' LLM = 'better' use cases?

Will the hallucination problem be resolved, or is it inherent in LLMs?

When will we see wide adoption of **real-world, ready-to-use applications** built on these platforms?

What impact—if any—will **legal-policy-regulatory efforts** have on their development?

How much will this really change the way, lawyers, law students, law professors work?

# Major Flaws and Limitations

Hallucinations / Unpredictability

**Unclear Liability/Regulatory Regime**

Intellectual property

Defamation

Fraud

Training data is subject to all of humankind's flaws (thus the output ... ?)

Nobody really knows happening 'under the hood'!

Current AI platform business models = 'West Coast Tech' attitude



# Long-Term Possibilities

{ 'long' = more than a year or two }

# The Cost of 'Knowledge' Goes to Zero

Substantial segments of professional work—especially law—are built on **knowledge**: Absorbing, recalling, organizing, pattern matching complex information from an array of sources.

Lawyers are not entirely (or even primarily) valued for knowledge, but **at minimum we should expect judging, legal practice and the organization of law firms to change.**

**Different skills will be required** in a zero-knowledge-cost environment:

More critical thinking, assessment, evaluation.

Less gathering, finding, writing.

# Writing Becomes Costless

Many lawyers spend a lot of time writing. This should dramatically drop.

**Editing is the new writing.**

Not copyediting.

Substantive editing.

Interactive, sequential editing.

# Access to Knowledge / Writing Becomes (Much) Cheaper

**Incredibly promising opportunities to expand access to justice and/or other law or law-ish tools.**

Advocacy for a much broader array of need cases.

High-quality dispute resolution that is (almost) costless.

Contract drafting — will it even be necessary?

# Access to Knowledge / Writing Becomes (Much) Cheaper

**Interesting possibilities regarding dispute resolution / courts.**

Pre-litigation dispute resolution via AI

Higher standard of advocacy / briefing

Decisions that are (mostly) written by AI models\*

\*someone call me about a research project on this



# Understanding AI is the New Smart

If these tools turn out to be as powerful as promised (a big if!), then a major differentiating skill will be how to use them.

**This is common in any technology transition, but the pace and scale here seems different.**

The modern professional—especially the legal professional—will have a **deep literacy** about AI tools: Both what they can do and what they cannot do. (Current versions of LLMs are designed to trick humans!)



# Shorter-Term Thoughts

# Considerations for the Practice of Law

Deeply confusing technology environment

Uncertain impact on confidentiality/privilege, malpractice, etc.

Widely varying level of lawyer literacy as tools get deployed

But ... potentially enormous opportunities for efficiencies, human flourishing, public benefits, etc.

**Top law schools must play an important role here**

# Considerations for PennLaw — in 2024

Legal Research & Writing will never be the same

An urgent need to start teaching AI Literacy

- Use of the tools

- Ethics

- Regulatory and best practices

A top-to-bottom reconsideration of what and how we teach and assess.

New modes of teaching become much more accessible.

# Considerations for Future Lawyers

New skills to develop & master — now

Opportunities to differentiate themselves and provide value to their workplaces.

Opportunities to help set the terms of how AI interacts with society.

These tools can be enormously valuable learning aids.

# Considerations for Legal Research

Potentially enormous near-term impacts on the way we think about research on any text-based work. For example, analyzing a body of law, or historical materials.

Creation of domain-specific research tools: for example, PatentAI

Creation of simulations to perform virtual field experiments on legal rules.

# Judging in the world of AI (I)

Soon—if you haven't already—you will receive AI-enabled filings.

Unclear whether this is a sea change in the short-term

Over time AI will change the patterns of what you see

- more cases? (easier to access the courts?)
- fewer cases? (more diversion prior to trials?)
- higher quality filings (easier to access lawyering)

# Judging in the world of AI (II)

## Difficult legal issues will emerge

- principal/agent questions (is AI your agent?)
- AI-enabled fraud and other financial crimes could explode
- defamation / misinformation
- intellectual property
- liability of the AI platforms as tools emerge

## You may find AI very helpful

- routine drafting and (some) research
- arbitration and pre-trial diversion





# Some thoughts on the Regulation of AI

# “Public” versus “Private” Regulation

**Public** regulation: traditional notions of regulatory approaches.  
Legislation, regulation, etc.

**Private** regulation: primarily through private dispute resolution  
Judicial decisions  
Insurance companies, etc

We are likely to see some mix of both in the AI area.

**Private almost certainly before public, at least meaningfully.**

# Public Regulation - Approaches

Transparency & Disclosure (EU)

Usage limitations or heightened standards in certain sensitive areas (EU)

Direct regulation of development (eg, parameter size) or deployment (EU)

# Private Regulation - Existing Legal Disputes

Defamation

Intellectual property (copyright, right of personality)

General tort liability

Criminal law

Fraud

Pornography



# The Law School & AI

# Everyday Use of AI (ChatGPT 4, DALL-E, Midjourney)

Bar recommendation letters(!)

Teaching materials (class problems)

Exam creation support

Coming soon: essay grading, paper revisions

# For Fall 2023

Summer 2023 Work in two areas

## AI and Legal Education

Build a toolkit for students

Build a toolkit for educators

White papers, etc.

## AI in Patent Law Research

Claim construction doctrine

Understanding patent claims

Plus: starting a Penn Law AI network

# Winter 2024 and Beyond

Rollout of Legal-specific AI tools (CoCounsel / Lexis+ AI)

AI simulation space to test and evaluate legal-policy changes for innovation.

Literacy among faculty skilled at training the platform LLM models for domain-specific tasks.

Integrating with other schools at Penn on projects.



# Thank You

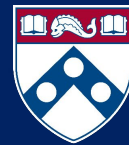
Please be in touch!

Polk Wagner  
[pwagner@law.upenn.edu](mailto:pwagner@law.upenn.edu)



**The AI Law Lab**

---



**Penn Carey Law**  
UNIVERSITY *of* PENNSYLVANIA