

# WELCOME TO THE ISOAG MEETING



VIRGINIA  
**IT AGENCY**

**Information Security Officers  
Advisory Group**

November 6, 2024



## Agenda

## Presenter

**Welcome/Opening Remarks**

**Kendra Burgess/ VITA**

**AI and Criminal Law**

**Elliott Casey/ Commonwealth's Attorney's  
Services Council**

**Application Certification**

**Daniel Boakye/ VITA**

**Google Chrome Browser Entrust Distrust**

**John Del Grosso/ VITA**

**Agency Scorecard**

**Erica Bland/VITA**

**Announcements and Upcoming Events**

**Kendra Burgess/ VITA**

**Adjourn**



# Generative AI, Prosecution and the Law

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NOVEMBER 6, 2024

ELLIOTT CASEY

STAFF ATTORNEY, VIRGINIA CASC

# Topics

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## ONE - AI: How Real is It?

- Machine Learning, Generative AI, AGI, and Super AI

## TWO - AI: How Do We Know What is Real?

- Deepfakes, Altered Images, and Courtroom Evidence.

## THREE - AI: Is the Constitution Ready?

- AI, “Explainability,” and Legal Determinations.

## FOUR - AI: How Do We Harness it for the Law?

- App Building, Legal Work, and AI as a Tool.
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# Part One: AI – Is it Really Here?

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This Person  
Does Not Exist

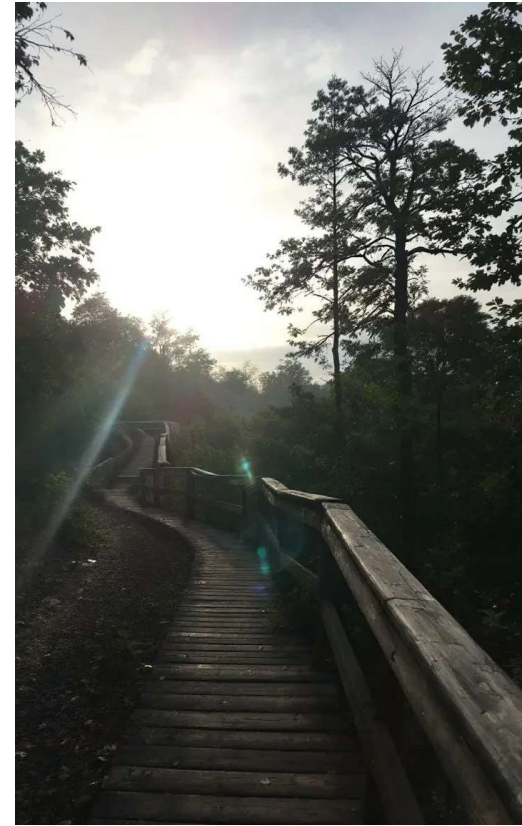
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This Image is Not Real

This Image is *Two Years  
Old*



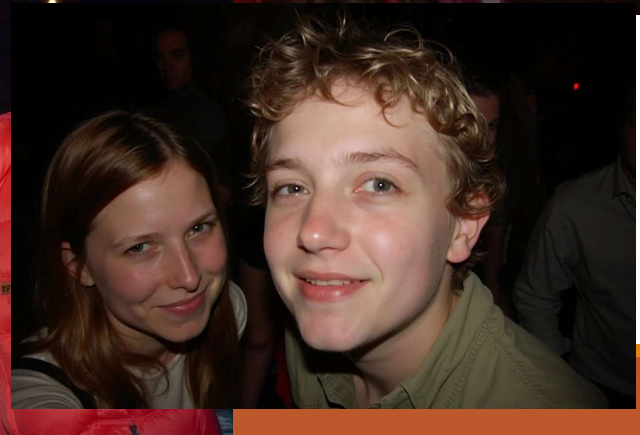




Which One is Real?

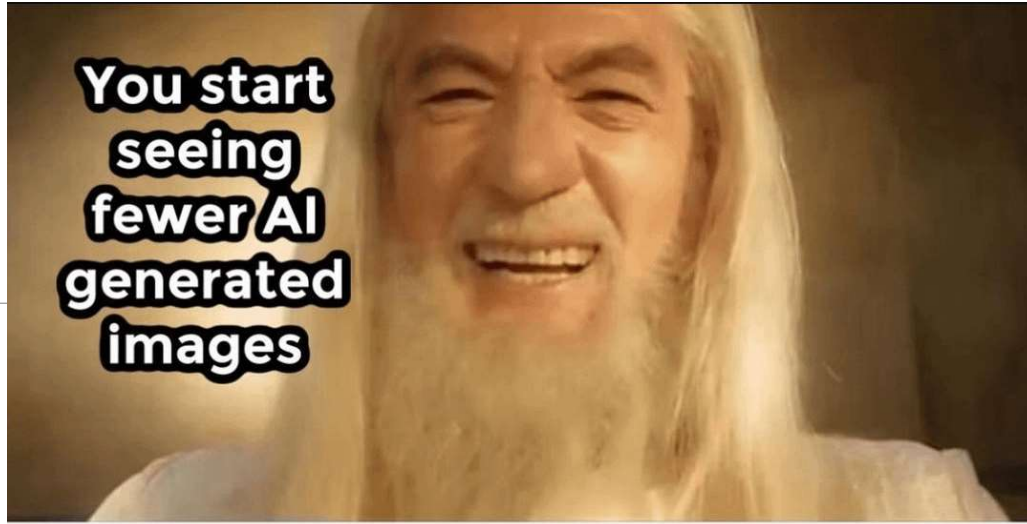


# Which One is Real?





**You start  
seeing  
fewer AI  
generated  
images**

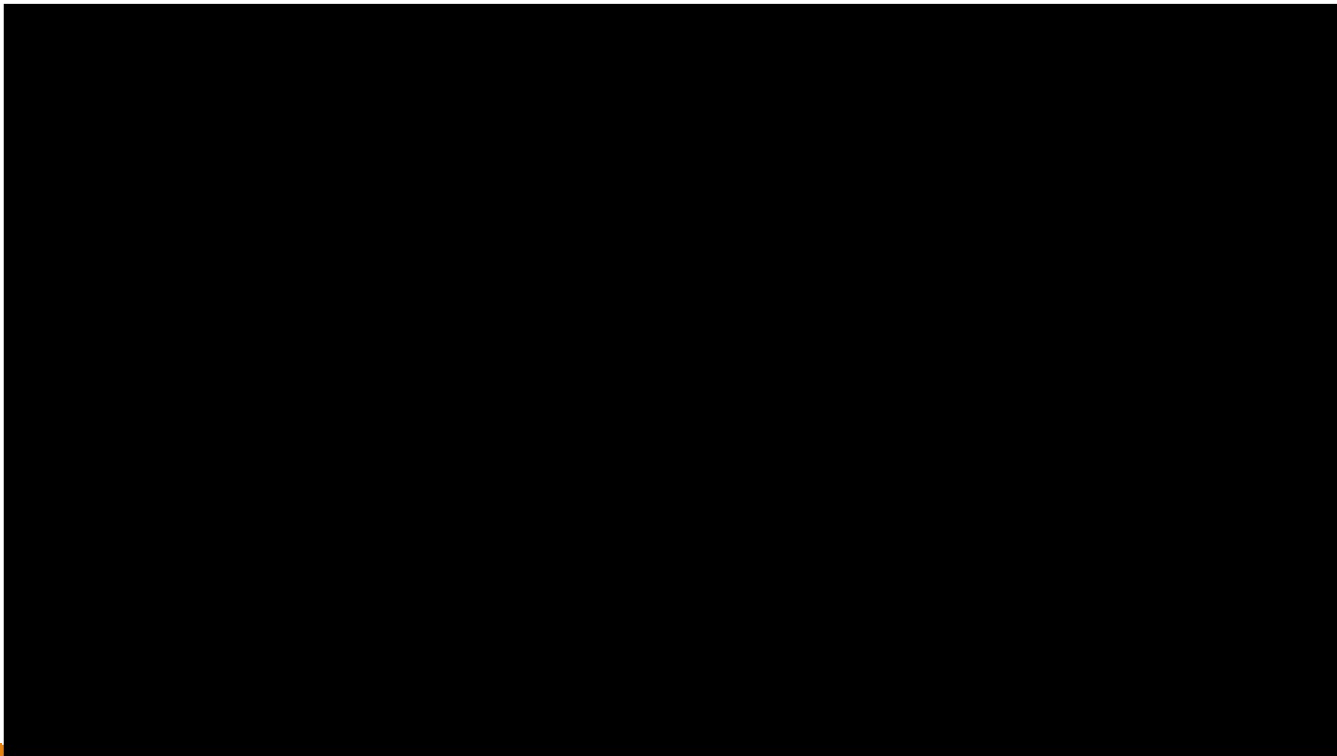


**You start  
seeing  
fewer AI  
generated  
images**



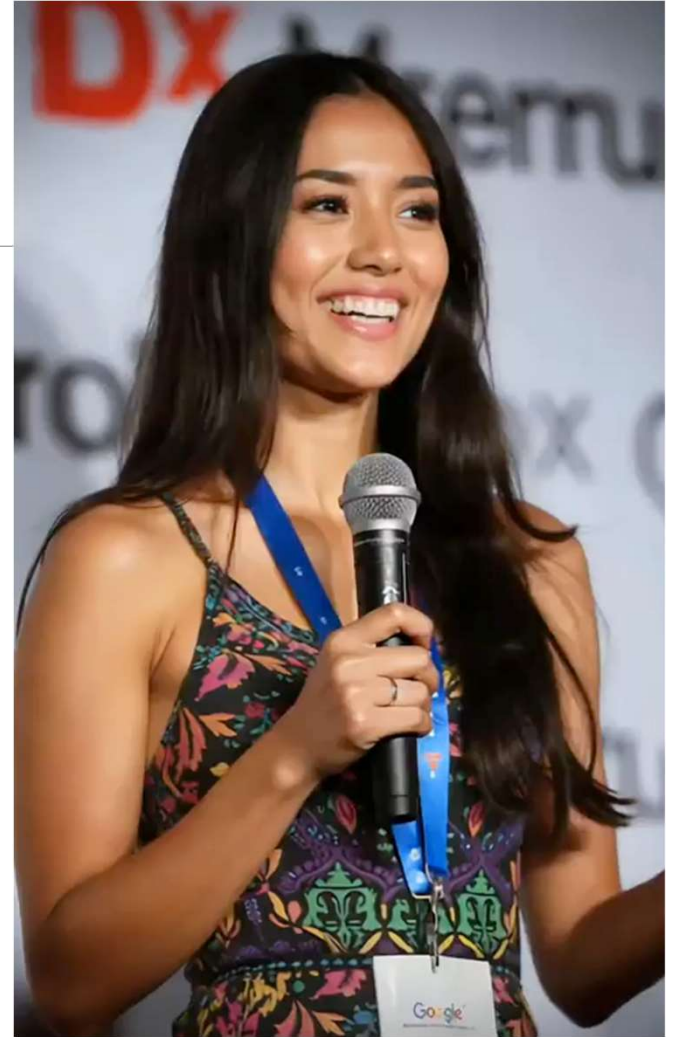
What about Video?  
Here is Runway, Version 3.0, as of June 2024

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Here is Runway,  
Version 3.0, as of  
August 2024



# We Still Have a Ways to Go

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AI is not yet actually “AI” – that is, it is not “intelligent.”

Our current AI is basically a “Large Language Model.”

Machine learning has taught these models how we communicate and then has learned to mimic those communications as behaviors.

- It can now do that with music, art, programming, data analysis, and a host of other functions.

Because it is not thinking, but instead mimicking, it is prone to strange errors that you would not expect from an actual, thinking entity – *Hallucinations*.



# Hallucinations





# Let's Define our Terms

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“**Machine Learning**”: The use and development of computer systems that are able to learn and adapt without following explicit instructions, by using algorithms and statistical models to analyze and draw inferences from patterns in data.

“**Generative AI**”: Artificial intelligence capable of generating text, images, videos, or other data using generative models, often in response to prompts. Generative AI models learn the patterns and structure of their input training data and then generate new data that has similar characteristics.

# Let's Define our Terms

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**“Artificial General Intelligence”** (AGI): Artificial general intelligence is a type of artificial intelligence that matches or surpasses human capabilities across a wide range of cognitive tasks. This is in contrast to narrow AI, which is designed for specific tasks.

**“Artificial Super Intelligence”** (ASI): Artificial superintelligence is a hypothetical software-based AI system with intellect beyond human intelligence. At the most fundamental level, this superintelligent AI has cutting-edge cognitive functions and highly developed thinking skills more advanced than any human.



# Senator Aird Definition: SB 487, 2024

## “"Artificial intelligence" means:

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(i) an artificial system that

- (a) performs tasks under varying and unpredictable circumstances without significant human oversight or can learn from experience and improve such performance when exposed to data sets;
- (b) is developed in any context, including software or physical hardware, and solves tasks requiring human-like perception, cognition, planning, learning, communication, or physical action; or
- (c) is designed to think or act like a human, including a cognitive architecture or neural network, or act rationally, including an intelligent software agent or embodied robot that achieves goals using perception, planning, reasoning, learning, communication, decision-making or action,

OR (ii) a set of techniques, **including machine learning**, that is designed to approximate a cognitive task.”




# Delegate Glass Definition, HB24, 2024

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Delegate Glass defined “Artificial Intelligence” as **both** “Generative Artificial Intelligence” and “Machine Learning Systems:”

““Generative artificial intelligence (AI) system” means any artificial intelligence technology or system that can generate new content, ideas, data patterns, or videos based on the input and training it has received, which includes text, images, audio, and video content.

““Machine learning system” means a subset of artificial intelligence in which algorithms and statistical models are used by systems to improve their performance on a specific task through experience and data without being explicitly programmed for that task.”



# If You Include Machine Learning, then the Following Technologies are AI:

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Face ID

Voice-to-Text

Video Transcription

Spell Check / Grammar Check

Predictive Text

Waze/Google Maps/etc.

Google /Bing / etc. Search Algorithms

Website Product Recommendations

Cyberthreat Detection, Including:

Email Spam Filtering

Anti-Virus Software

Anti-Malware Software

... as well as various on-chip machine learning.



# VITA Definition: EA-225

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"Artificial Intelligence" is:

"The simulation of human intelligence processes by machines, especially computer systems, such that it can adapt and learn on its own using machine learning algorithms that can analyze large volumes of training data to identify correlations, patterns, and other metadata that can be used to develop a model that can make predictions or recommendations based on future data inputs."

VITA definition specifically ***excludes*** machine learning. If something is machine learning, it is by definition ***not*** Artificial Intelligence.



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“AI is one of the most important things humanity is working on. It is more profound than electricity or fire.”

Google CEO  
Sundar Pichai



# This IS the Future

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If you are going to function as an attorney in this world, you need to *at least have interacted with* some kind of AI tool.

Potential choices:

- |                           |   |
|---------------------------|---|
| ◦ OpenAI: ChatGPT         | <a href="https://openai.com/chatgpt">openai.com/chatgpt</a>         |
| ◦ Anthropic: Claude       | <a href="https://anthropic.com/claude">anthropic.com/claude</a>     |
| ◦ Google/Alphabet: Gemini | <a href="https://gemini.google.com">gemini.google.com</a>           |
| ◦ X/Twitter: Grok         | <a href="https://grok-ai.app/">grok-ai.app/</a>                     |
| ◦ Facebook/Meta: Llama 3  | <a href="https://llama.meta.com/llama3/">llama.meta.com/llama3/</a> |

# AI is a Major Focus for Legislation

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In the 2024 legislative session, at least 45 states, Puerto Rico, the Virgin Islands and Washington, D.C., introduced AI bills,

In the 2024 legislative session, 31 states, Puerto Rico and the Virgin Islands adopted resolutions or enacted legislation.

At least 40 states have pending legislation in the 2024 legislative session regarding “deepfakes.” At least 50 bills have been enacted on “deepfakes.”



# Part Two: Deepfakes, Altered Images, and Courtroom Evidence

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HOW DO YOU PROVE WHAT IS REAL IN AN AI WORLD?





## Pics or It Didn't Happen

- This Problem is Not New
- See *"Fraudulent Transposition of Original Signatures by Office Machine Copiers,"* BB Carney, A.Sc., B.A., J. Forensic Sci.. Oct 1984, 29(4): 1209-1211.



# This Problem is Not New

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U.S. Supreme Court faced this issue in *Ashcroft v. Free Speech Coalition*, 535 U.S. 234 (2002),

In *Ashcroft*, the Court struck down certain provisions of the Child Pornography Prevention Act of 1996 that prohibited:

- "any visual depiction, including any photograph, film, video, picture, or computer or computer-generated image or picture" that "is, or appears to be, of a minor engaging in sexually explicit conduct".
- "any sexually explicit image that was advertised, promoted, presented, described, or distributed in such a manner that conveys the impression it depicts a minor engaging in sexually explicit conduct".


# Staying Within *Ashcroft's* Bounds

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*Ashcroft* invalidated §§ 2256(8)(B) and 2256(8)(D) of the CPPA, provisions that extended the definition of child pornography to include virtual images, or any image which “appears to be” of a minor, 18 U.S.C. § 2256(8)(B) (2000), or “conveys the impression that the material is or contains a visual depiction of a minor,” *id.* § 2256(8)(D). *Free Speech Coalition*, 122 S.Ct. at 1405–06.

The Court found that these sections were overbroad, in violation of the First Amendment. *Id.*

No other provisions of the CPPA were invalidated; in fact, throughout the opinion, the Supreme Court expressly limited its holding to these two provisions because they bring virtual images within the purview of the CPPA. *Id.* at 1397, 1405–06.



# Va. Act of Assembly 2024 Ch. 262: Production, publication, sale, financing, etc., of child abuse materials.

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Amends § 18.2-374.1.

Amends the definition of "child pornography" to include sexually explicit visual material that depicts a minor in a state of nudity or engaged in sexual conduct where such depiction is obscene and specifies that such minor does not have to actually exist.

# Va. Code § 18.2-374.1 New Definition

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A. For purposes of this article and Article 4 (§ 18.2-362 et seq.) of this chapter, "child pornography" means sexually explicit visual material which that

- i. utilizes or has as a subject an identifiable minor or
- ii. **depicts a minor in a state of nudity or engaged in sexual conduct, as those terms are defined in § 18.2-390, where such depiction is obscene as defined in § 18.2-372.**

An identifiable minor is a person who was a minor at the time the visual depiction was created, adapted, or modified; or whose image as a minor was used in creating, adapting or modifying the visual depiction; and who is recognizable as an actual person by the person's face, likeness, or other distinguishing characteristic, such as a unique birthmark or other recognizable feature; and shall not be construed to require proof of the actual identity of the identifiable minor.

**For the purposes of clause (ii), the minor depicted does not have to actually exist.**

# Addressing the CSAM Issue

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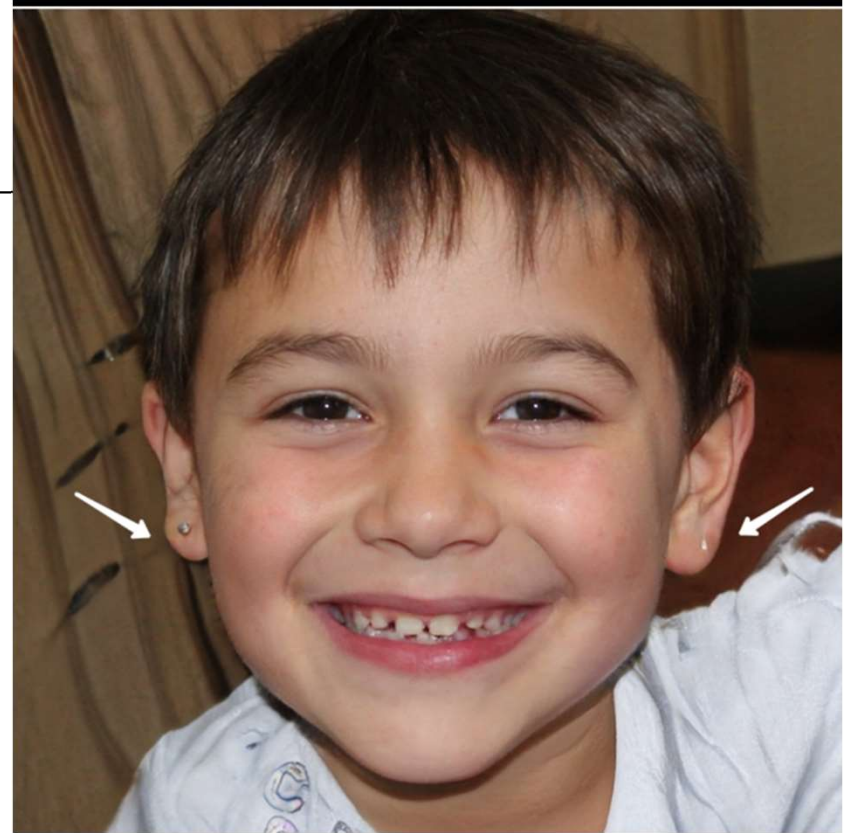
1. We need to look at the images.
2. We need to look at the metadata.
3. We need to look at *how* the image was made.
4. We need to look at shellbags and other digital artifacts.
5. We need to look at circumstantial evidence and seek evidence of authenticity and attribution.



Step 1:  
Look at the image itself

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Does it make sense?





# Metadata

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Metadata has always been crucial to digital forensics but is even more important in an AI-generated world.

For example, you can use EXIF tools to examine metadata to find EXIF data in images to find evidence of “inpainting” to identify AI images.

Some vendors, like Magnet Forensics, have tools that will give indicators of whether something is AI generated by either Dall-E, MidJourney, or Stable Diffusion. #NotAnAd

Remember that it is possible to use a Hex Editor to change metadata on an image file. Don’t know how? Just ask ChatGPT...

# How Did This Get Made?

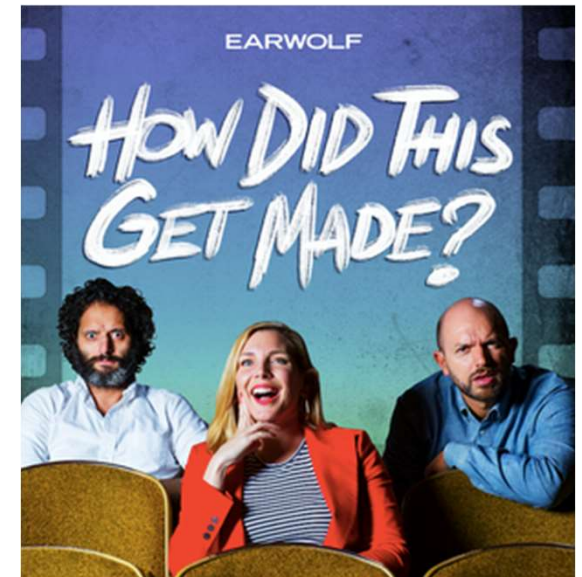
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Another approach examines files, not for Metadata, but instead for how the camera creates a file.

Camera video is made in a different way than synthetic video (generative media).

- FYI, Medex Forensics has a tool that does that #NotAnAd.

Unlike metadata, you can't change that sort of data with a Hex editor.



# What if the Video is Online?

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Youtube, TikTok, Instagram, etc., re-encode videos to normalize data, so there is no way to do that forensic work on those platforms.

**Solution**: Ask Google, etc., to provide the uploaded video.

Google has three versions of a video:

- Camera Original
- Uploaded Version
- Youtube Version

**Note**: The companies could also flag videos themselves as generative/synthetic, but they do not.



# Device Forensics: Shellbags


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Shellbags are set of registry keys which contain details about a user's viewed folder; such as its size, position, and icon. This means that all directory traversal is tracked and maintained in the registry.

The shellbags provide timestamps, contextual information, and show the access of directories and other resources, potentially pointing to evidence that once existed.

Forensic investigators search for artifacts in the ShellBags information because it may contain registry keys that indicate which folders the user accessed in the past.

Shellbag analysis can be tricky and requires a sophisticated understanding of how Windows organizes and tracks files.



# Device Forensics: Circumstantial Evidence for Attribution and Authenticity

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Circumstantial evidence that demonstrates when a file was created/downloaded/viewed, how it came to be on the device, and who accessed it has ALWAYS been crucial, but never more so than in an AI world.

Example: Just finding evidence on an iPhone is not enough.

We need to examine SQL databases/Biomes/Push Tokens/other circumstantial evidence to show through what app/method a file reached the device.

# Part Three: AI – Is the Constitution Ready?

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AI IN FOURTH AMENDMENT DETERMINATIONS




# What Does the 4<sup>th</sup> Amendment Say About AI?

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“The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, AND

“No warrants shall issue, but upon probable cause, supported by oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.”





# How Do We Answer this Question?

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“‘Reasonableness’” nevertheless remains “the ultimate touchstone of the Fourth Amendment.”

- *Brigham City v. Stuart*, 547 U.S. 398, 403 (2006) (citing *Flippo v. West Virginia*, 528 U.S. 11, 13 (1999), and *Katz v. United States*, 389 U.S. 347, 357 (1967)).

“An action is ‘reasonable’ under the Fourth Amendment, regardless of the individual officer’s state of mind, ‘as long as the circumstances, **viewed objectively**, justify [the] action.’”

- *Id.* (quoting *Scott v. United States*, 436 U.S. 128, 138 (1978) (emphasis in original)).

# “Explainability”

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DO WE HAVE TO UNDERSTAND AI TO USE IT IN THE LAW?

Challenge:

We Don't Really Know How These Models Work

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“What's going on inside of them? ... We have these systems, we don't know what's going on. It seems crazy.” *Chris Olah, Co-Founder, Anthropic.*

Even the people who build LLMs don't know exactly how they work, and massive effort is required to create guardrails to prevent them from churning out bias, misinformation, and even blueprints for deadly chemical weapons.

# “Explainability”

## Term that Requires Explanation

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Some use the terms explainability and interpretability interchangeably to refer to the concept of making models and their outputs understandable.

Others draw distinctions between the terms.

Does explainability refer to *a priori* (before the fact?) explanations?

Does explainability refer to *a posteriori* (after the fact?) explanations?

Does explainability mean "mechanistic interpretability:" The process of reverse-engineering artificial neural networks to understand their internal decision-making mechanisms and components, similar to how one might analyze a complex machine or computer program?

Does explainability simply mean “verifiability?”

# May Police Officers Supplement their Experience with AI?

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Police are permitted to draw inferences based on their own experience in determining whether probable cause exists.

- *Ornelas v. United States*, 517 U.S. 690, 700 (1996)

Police may make inferences “that might well elude an untrained person.”

- *United States v. Cortez*, 449 U.S. 411, 418 (1981) (police may make inferences “that might well elude an untrained person”).

# An Officer Does Not Have to Understand Al

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The Fourth Amendment imposes a standard of objective reasonableness.

- See *Kentucky v. King*, 563 U.S. 452, 459 (2011).

The test is not what the officer thought, but rather whether the facts and circumstances apparent to him at the time of the stop were such as to create in the mind of a reasonable officer in the same position a suspicion that a violation of the law was occurring or was about to occur.

- *Scott v. United States*, 436 U.S. 128, 138 (1978).
- 


## *Terry v. Ohio*, 392 U.S. 1 (1968)

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At 2:30 p.m., Cleveland Police Detective Martin McFadden observed Terry and his companions repeatedly walking back and forth, looking into a store window, and conferring with one another. Terry, 392 U.S.. at 6.

The officer “was unable to say precisely what first drew his eye to them.” Id. at 5.

But the officer had “been assigned to patrol this vicinity” for 30 years looking for “shoplifters and pickpockets.” Id.





## *Terry Con'd*

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The curious back-and-forth movements by the men on a public walkway while peering into a store window made the officer suspect that they were “casing a job, a stick-up,” and “he feared ‘they may have a gun.’” *Id.* at 6.

After Terry and his companions “had departed the original scene,” *id.* at 28, the officer walked up to the men, identified himself as a police officer, asked for their names, and when they “mumbled something,” immediately patted them down and found two handguns, *id.* at 6-7.

# Can AI Be an Informant?

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A Court must evaluate probable cause based upon the totality of the circumstances regarding the validity of an informant's tip.

- *Illinois v. Gates*, 462 U.S. 213 (1983).

Specifically, an informant's tip is based upon that informant's veracity, reliability and basis of knowledge.

- *Id* at 233.

An informant's ability to provide a detailed account of illegal activity also renders her information more reliable, as does the fact that the informant observed the illegal acts herself.

- *Id* at 233-234.

# AI and Probable Cause: The “Freenet” Algorithm

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Freenet is free to use and publicly available to anyone willing to dedicate a portion of their computer's hard drive to the network.

Unlike other file sharing systems, Freenet does not give a user immediate access to intact files for downloading.

Rather, to allow for anonymous retrieval of files from the network, Freenet breaks down each uploaded file into "blocks."

These blocks, or portions of a file, are then distributed over numerous computers that are running Freenet.

Obviously, Freenet is ideal for CSAM.



# “Hacking” Freenet


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A key feature of Freenet is that requesters and relayers are indistinguishable to an ordinary user of the network.

A user who receives a request does not know whether it came from an original requester or a relayer.

Law enforcement, however, became able to determine which Freenet users request which files by using a statistical algorithm developed and validated by Dr. Brian Levine, an expert in networks and security at the University of Massachusetts Amherst.

The algorithm allows law enforcement to distinguish between requests sent from an original requester and requests forwarded by a relayer, with a 2% false positive rate.




# Can Dr. Levine's Algorithm Provide Probable Cause? Yes.

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*United States v. Dickerman*, 954 F.3d 1060, 1067-68 (8th Cir. 2020):

“No doubt, it would have been better for Slaughter to specify how officers used Dr. Levine’s algorithm to reach this conclusion. Slaughter could have noted the validity and error rate of the algorithm and explained the significance of Dickerman’s computer requesting a certain number of blocks of a known child pornography file.

“As investigative techniques get more sophisticated, affiants should be mindful to explain their basis for probable cause in a way that is sufficiently comprehensive but still accessible to the judge reviewing the warrant application.”



## Another Freenet Case: *U.S. v. Gray*, 2022

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Search warrant affidavit described Dr. Levine's algorithm and that relying on the algorithm, the agent determined that the user likely "was the original requestor of each of the described files."

The affidavit further described the Freenet algorithm, including when and how it was developed, how it works in the typical case, and its general reliability.

Specifically, the affidavit represented that the algorithm is highly accurate based on the results of a peer-reviewed study-a copy of which the agent noted was available for the magistrate judge's review upon request-and the agents' personal knowledge of its successful use in other cases.

# Court: Affidavit Provided Probable Cause

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Defendant objected that the affidavit did not establish probable cause because it did not explain precisely how the Freenet algorithm pointed to him as the original requestor of three files containing known child pornography.

Court: “Although SA Weber could have provided the specific details of her algorithmic reasoning or attached a copy of the peer-reviewed study as an exhibit to the affidavit, her failure to do so does not change the outcome.”

Agent did not have to include the algorithm itself in the affidavit.

*United States v. Gray*, 7:22-cr-00001, \*10 (W.D. Va. Oct 20, 2022)



# Other Courts on Algorithmic Probable Cause

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“Although the underlying algorithm relied upon advanced mathematics, the evidence presented to the Court was paradigmatic circumstantial inference: a series of circumstances that imply a likely result.”

- *United States v. Sigouin*, 494 F.Supp.3d 1252, 1268 (S.D. Fla. 2019)(Proper to deny motion to suppress search warrant affidavit).
- See Also *United States v. Weyerman*, 21-1896 (3rd Cir. May 17, 2022)(Trial court properly denied motion to suppress search warrant based on Dr. Levine’s Freenet algorithm).

# “CPS” Algorithm: U.S. v. Dodson


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HSI used the “Child Protection System” (CPS) and eMule to find CPS on P2P networks.

CPS analyzes the hash values assigned to files available for download on the P2P network and compares them to files stored in government databases that contain known child pornography.

CPS essentially automates the searches any normal human user can run on eMule and then stores the relevant information in a special law enforcement database.

The CPS system is designed to operate as a normal user and within the normal parameters of the eMule software.

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# Court: Affidavit Provided Probable Cause

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“At the end of the day, the CPS program looks at the same available content as a regular human user, just from a different perspective; whereas users would look at the content of a file from a visual perspective, CPS looks at the files through a coded and numerical perspective.

“And it is again worth noting the whole CPS process has to begin with a law enforcement officer conducting a manual search by file name and then confirming the located file actually contains child pornography.”

*U.S. v. Dodson*, 960 F.Supp.2d 689, 697 (W.D. Tex. 2013)

# Part Four:

## Harnessing AI for the Law

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# Great Care and Caution

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HOW TO USE AI RESPONSIBLY IN 2024

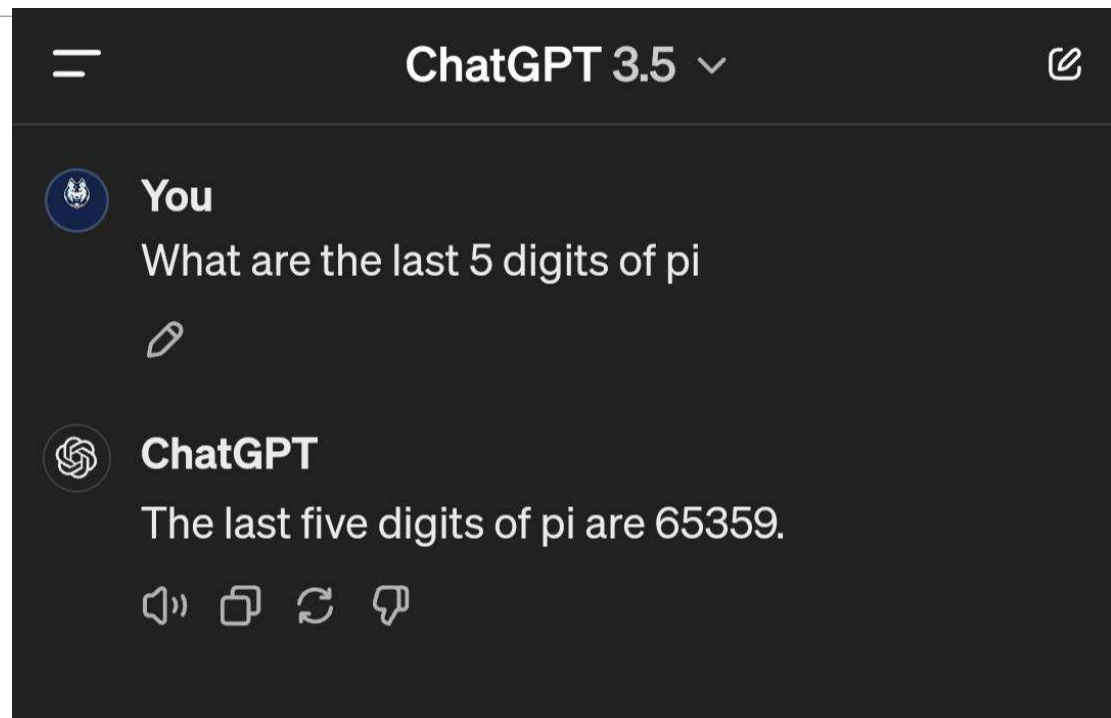


# AI is Still a “Language Model,” not *Actually Intelligent*

Using AI responsibly requires understanding what it IS, and what it is NOT.

AI is VERY useful for collecting and crunching large amounts of data.

AI is NOT able to “think” on its own (yet).

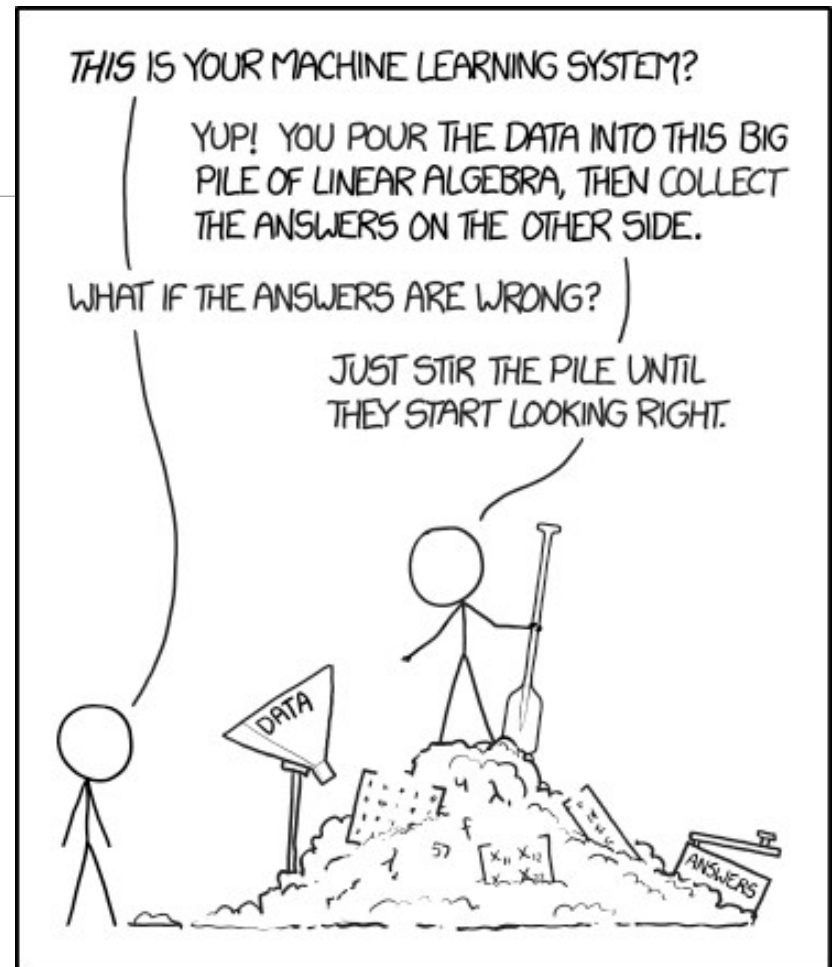


# What's the issue?

AI is not “thinking” (yet).

It is using an “Adversarial” system to generate results.

Question: Is an adversarial system focused on getting to the truth? Or on following certain rules?



## Example: Case Summaries by AI

### *Utah v. Strieff*, 579 U.S. 232 (2016)

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Prompt: “Would you please provide me an extracted summary or extractive summary, with key quotes and key sentences, from the following case:”

- Answer: The case of "*Utah v. Strieff*" involved an unlawful stop by a police officer, which led to the discovery of an outstanding arrest warrant and evidence of drugs on Edward Strieff. The Supreme Court held that the evidence was admissible despite the illegal stop, as the discovery of a valid, pre-existing arrest warrant sufficiently weakened the connection between the unlawful stop and the evidence found. The ruling reasoned that the officer's conduct was not purposeful misconduct and that there was no systemic issue at play. Dissenting opinions highlighted the potential for this ruling to encourage stops without reasonable suspicion, given the high number of outstanding warrants, which could negatively impact civil liberties and disproportionately affect communities of color. The case draws attention to the balance between Fourth Amendment protections and law enforcement practices.



# Example: GPT 4.0 as Slide Maker

## Prompt Language for Slide

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*Utah v. Strieff*, 579 U.S. 232 (2016)

Justice Thomas delivered the opinion of the Court. The question in this case is whether this attenuation doctrine applies when an officer makes an unconstitutional investigatory stop; learns during that stop that the suspect is subject to a valid arrest warrant; and proceeds to arrest the suspect and seize incriminating evidence during a search incident to that arrest. We hold that the evidence the officer seized as part of the search incident to arrest is admissible because the officer's discovery of the arrest warrant attenuated the connection between the unlawful stop and the evidence seized incident to arrest.


## GPT 4 – “Powerpoint Maker”

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“Here's a slide summarizing the key issue and decision in 'Utah v. Strieff, 579 U.S. \_\_\_\_ (2016)', highlighting the application of the attenuation doctrine. “

“This visual representation emphasizes Justice Thomas's opinion and the Court's holding that evidence seized incident to an arrest is admissible if the officer discovers a valid arrest warrant after an unconstitutional stop, thereby attenuating the link between the unlawful stop and the evidence obtained.

“The design aims to clearly illustrate the judicial reasoning behind the decision, making it suitable for legal education or presentations.”



# THE ATTENUATION DOCTRINE

Utah v. Strieff 5, 579 U.S., U.S.S., 2016

Officer makes a  
unconstitutional  
stop

The attenuation doctrine

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40

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10



*Key Reminder for Today:*  
As of Today, We Are Seeing AI  
in its Worst, Most Ineffective  
Form.

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AFTER TODAY, IT WILL *ONLY BECOME*  
*BETTER.*



# What's Next?



MOVIECLIPS.COM

# Why AI will Get Better for Us

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AI is currently adding a crucial feature: Memory.

Using Vector Databases, Machine Learning models can learn from the past by storing data and assigning values.

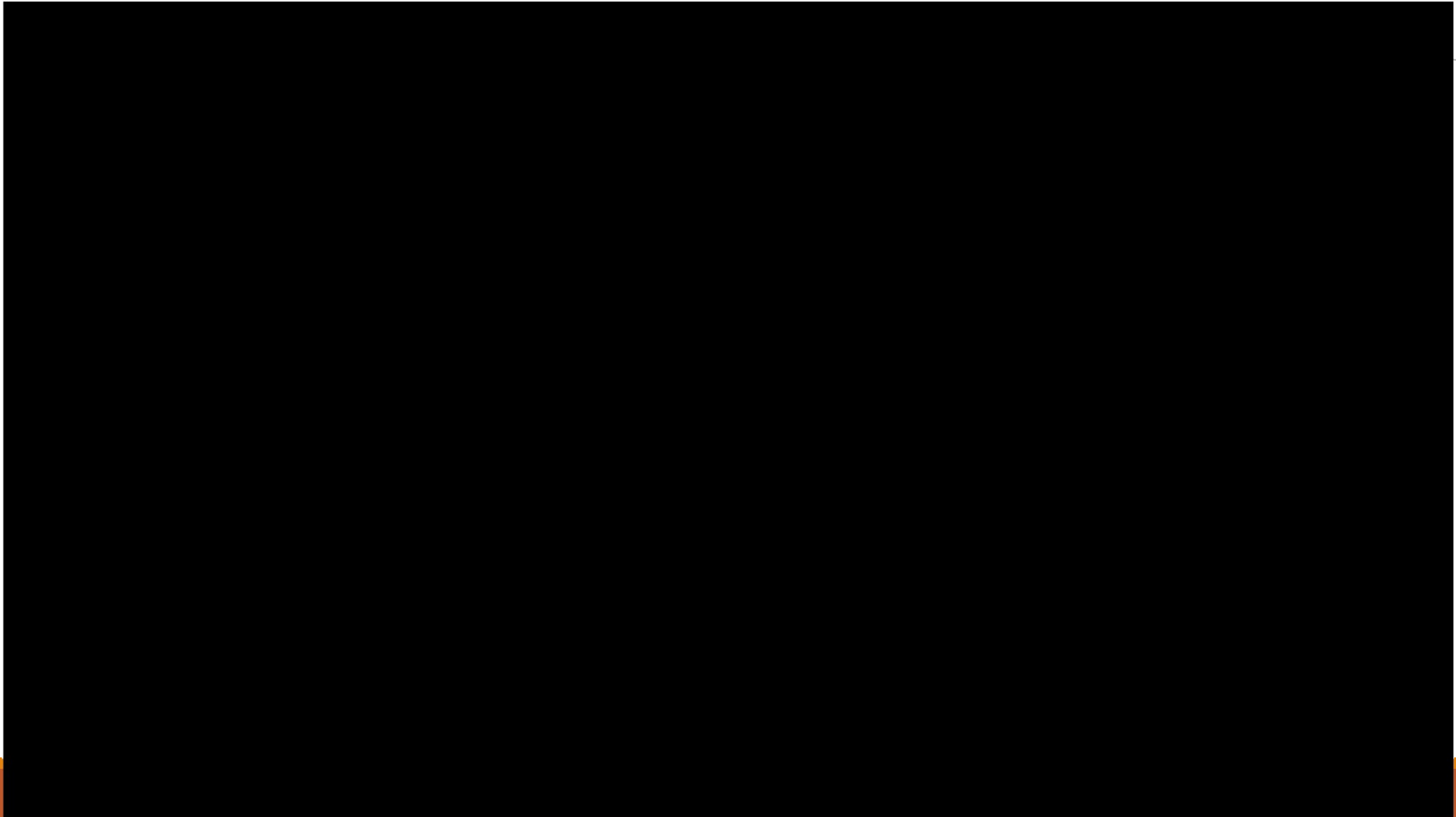
For example, you could teach your model that you like A but not B.

You could teach your model that Y is a serious issue, but Z is not.

As with any learner, memory and experience are key.

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AI Can Learn Faster than We Ever Could  
- IF We Give it the Compute and Data it Needs





# So What CAN AI Do?

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Instead of asking AI to think for you, consider asking AI to *WORK* for you instead.



If a banana weighs 0.5 lbs and I have 7 lbs of bananas and 9 oranges, how many pieces of fruit do I have?



You have 16 pieces of fruit, 7 bananas and 9 oranges.



# Use Case:

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HANDLING LARGE AMOUNTS OF DATA



# Police Body Camera Video

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Axon, the nation's largest provider of police cameras and of cloud storage for the video they capture, has a database of footage that has grown from around 6 terabytes in 2016 to more than 100 petabytes today.

That's enough to hold more than 5,000 years of high definition video, or 25 million copies of last year's blockbuster movie "Barbie."

No one is watching most of that data.



# AI and Body Camera Footage

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In 2023, Patterson NJ Police department contracted with Truleo, a Chicago-based software company that examines audio from bodycam videos to identify problematic officers and patterns of behavior.

For around \$50,000 a year, Truleo's software allows supervisors to select from a set of specific behaviors to flag, such as when officers interrupt civilians, use profanity, use force or mute their cameras.

The flags are based on data Truleo has collected on which officer behaviors result in violent escalation.




# AI and Body Camera Footage

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In August 2023, the Los Angeles Police Department said it would partner with a team of researchers from the University of Southern California and several other universities to develop a new AI-powered tool to examine footage from around 1,000 traffic stops and determine which officer behaviors keep interactions from escalating.

In 2021, Microsoft awarded \$250,000 to a team from Princeton University and the University of Pennsylvania to develop software that can organize video into timelines that allow easier review by supervisors.




# AI and Body Camera Footage

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Dallas-based Polis Solutions has contracted with police in its hometown, as well as departments in St. Petersburg, Florida, Kinston, North Carolina, and Alliance, Nebraska, to deploy its own software, called TrustStat, to identify videos supervisors should review.

Closer to home, Utah County is using Carbyne Universe, a cloud software platform that enables emergency call centers to handle video, audio and other media, bypassing traditional “voice only” communication methods.

“In one instance, we used Carbyne video with a report of a brush fire in the foothills, confirming the size of the fire and its location to determine the appropriate fire response.”



# Use Case:

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HELPING US HANDLE LARGE AMOUNTS OF DATA



# AI Can Code!

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At the moment, all AI is based in Large Language Models.

Code is just a language.

AI can learn to speak English, Mandarin, and in Code.

Some AI are *very good* at coding – and helping you code.

# Problem

Turn This:

2	Abato	Diane	Assistant Commonwealth's Attorney	Stafford County	dabato@
3	Abbey	Amanda	Assistant Commonwealth's Attorney	City of Suffolk	aabbey@
4	Abbott	Michael	Attorney	Norton	michael@
5	Abel	Terri	Assistant Commonwealth's Attorney I	Commonwealth's	abelt@pc
6	Aboreden	Nassir	Deputy Commonwealth's Attorney	Falls Church	naborede
7	Abouzaki	Nael	Assistant Commonwealth's Attorney	Henrico County	abo001@
8	Abrajano	Mark	Assistant Commonwealth Attorney	Fairfax County	mark.abr
9	Abrams	Marc	Commonwealth's Attorney	City of Winchester	mabrams
10	Ackerman	John	Assistant Commonwealth's Attorney	Albemarle County	jackerma
11	Ackerman	John	Assistant Commonwealth's Attorney	Spotsylvania County	jackerma
12	Ackerman	John	Assistant Commonwealth's Attorney	Arlington County	jackerma
13	Ackley	Matthew	Deputy Commonwealth's Attorney	Henrico County	ack07@h
14	Acosta	Marie	Assistant Commonwealth's Attorney	Frederick County	macosta

Into This:

Smith	Erik	AAG	Office of the Attorney General
Formula Bar Catherine Taylor	Raymond	ACA	Fairfax County
Burroughs	Joan	ACA	Richmond CA's Office
Silek	David	ACA	Shenandoah County Commonwealth's Attor
Link	Sarah	ACA	Brunswick Commonwealth's Attorney Office
Miller	Pia	ACAIII	Office of the Commonwealth's Attorney for /
Nichols	Phillip	Acting Commonwealth's Attorney	Greensville County/City of Emporia
Ringer	Melissa	Administrative Attorney	Chesterfield County
Howie	Amanda	Administrator	VACA
Beliles	Ben	Assistant	Nelson County Commonwealth's Attorney
Seal	Clinton	Assistant	Hanover County
Hettig	Brooke	Assistant Attorney General	Office of the Attorney General
Newton	Molly	Assistant Attorney General	Office of the Attorney General
Campola	Louis	Assistant CA	Frederick County

\* Yes, I know Excel can do this already



# Solution: Write a Program to Do Just That *(full transcript in materials)*

---

**ME**: Could you help me sort a spreadsheet? I need a program that will sort a spreadsheet for me.

**ChatGPT**: Of course! I can help you create a program to sort a spreadsheet. Which programming language would you prefer to use? Additionally, could you provide more details about the spreadsheet and how you want it to be sorted? For example, the format of the spreadsheet (e.g., Excel, CSV), the column(s) you want to sort by, and whether the sort should be ascending or descending.

**ME** : Yes, the spreadsheet is an excel spreadsheet. The spreadsheet has 5 columns and I would like to sort it by the third column. I do not have a preferred programming language. I do not know how to code so I am happy to use any language that you think makes sense.

**ChatGPT**: Let's use Python with the `pandas` library, as it's powerful and relatively easy to work with for tasks like this. Here's a step-by-step guide to sorting your Excel spreadsheet by the third column....

# Future Use Case:

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INTERN-LEVEL LEGAL WORK



# Right or Wrong?

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**ME**: Is Utah a state that follows a rule that someone is "per se" intoxicated at a .08 BAC rule or does the .08 BAC merely provide a "permissive inference" of intoxication that the defendant can rebut at trial?

**ChatGPT**: “Utah follows the "per se" intoxication rule, but with a stricter standard than many other states. As of December 30, 2018, Utah's legal limit for Blood Alcohol Concentration (BAC) is 0.05%, not 0.08%. This means that if someone is found to have a BAC of 0.05% or higher while driving, they are considered to be driving under the influence (DUI) per se, without needing additional evidence of impairment.

“Under Utah law, the presence of a BAC of 0.05% or higher constitutes a per se violation, meaning the prosecution does not need to prove actual impairment; the BAC level itself is sufficient for a DUI charge. This is stricter than the standard 0.08% BAC used in most other states.”

# Right or Wrong?

---

**ME:** In Utah, if an officer uses a Preliminary Breath Test (PBT) device to obtain a BAC reading from a driver on the side of the road, is the PBT admissible in court?

**ChatGPT:** “In Utah, the results of a Preliminary Breath Test (PBT) are generally not admissible as direct evidence of a driver's Blood Alcohol Concentration (BAC) in court. The PBT is primarily used by law enforcement officers at the scene to help establish probable cause for an arrest. This means that while the PBT results can justify an officer's decision to arrest a driver for DUI, the actual results from the PBT are typically not presented in court during the trial.

....




## Answer Continued

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“Instead, after an arrest is made, the driver will usually be required to submit to a more accurate and reliable breath, blood, or urine test at a police station or medical facility. The results of these post-arrest tests are admissible in court and are used as evidence of the driver's BAC.

“However, the fact that a PBT was administered and the officer's observations and interactions with the driver (such as signs of impairment) can be presented in court to support the officer's probable cause for the arrest.”



# When I asked for citations...


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**“Utah Code Annotated (U.C.A.) § 41-6a-502:** This section establishes that a person is guilty of driving under the influence if they have a BAC of 0.05% or higher, or if they are under the influence of alcohol, drugs, or a combination thereof to a degree that renders them incapable of safely operating a vehicle.

**“U.C.A. § 41-6a-523:** This section details the admissibility of chemical test results in DUI cases, specifying the requirement for tests to be conducted within a reasonable time frame to reflect the BAC at the time of the incident.

**“U.C.A. § 41-6a-520:** This section covers the implied consent law in Utah, stating that any person operating a vehicle in Utah has given consent to chemical tests (breath, blood, or urine) to determine BAC or drug content if lawfully arrested for DUI. It also addresses the consequences of refusing such tests.

**“U.C.A. § 41-6a-515:** This section discusses the use of preliminary breath tests (PBT) by law enforcement officers, stating that the results of a PBT can be used to establish probable cause for an arrest but are not typically admissible as direct evidence of BAC in court.”



FOR NOW:  
Do NOT Use  
Chat GPT  
for *ACTUAL*  
Legal  
Research!

(https://valawyersweekly.com/authors/bogus-case-law/body/Two-apologists-for-judge-in-Manhattan-federal-court-blamed-  
%2F13%2Fflawed-blame-

 (mailto:?subject=Lawyers blame ChatGPT for tricking them into citing bogus case law&body=Two apologetic lawyers responding to an angry judge in Manhattan federal court blamed ChatGPT for tricking them into including fictitious legal research in a court filing. Attorneys Steven A. Schwartz and... You can read the content in details following link <https%3A%2F%2Fvalawyersweekly.com%2F2023%2F06%2F13%2Flawyers-blame-chatgpt-for-tricking-them-into-citing-bogus-case-law%2F>)

Attorneys Steven A. Schwartz and Peter LoDuca are facing possible punishment over a filing in a lawsuit against an airline that included references to past court cases that Schwartz thought were real, but were actually invented by the artificial intelligence-powered chatbot.

The chatbot, which has fascinated the world with its production of essay-like answers to prompts from users, suggested several cases involving aviation mishaps that Schwartz had not been able to find through usual methods used at his law firm.

FOR NOW:

Do NOT Use Chat GPT for Legal Advice Either!

It Just Makes Bad Advice *Sound* Like Good Advice....

## **Fugees rapper says lawyer's use of AI helped tank his case, pushes for new trial**

[The Associated Press](#)

A multimillion-dollar conspiracy trial that stretched across the worlds of politics and entertainment is now touching on the tech world with arguments that a defense attorney for a Fugees rapper bungled closing arguments by using an [artificial intelligence](#) program.



# Show Cause Against Plaintiffs for Using False Citations: *Iovino v. Stapleton*, July 24, 2024 W.D. Va.

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Federal Court issued show cause against attorneys whose citations appeared to be “GPT Run Amok.”

Attorney accepted blame for relying on GPT-generated search results to validate citations. As for the inaccurate quotations, he said the GPT essentially “air-quoted” phrases in string citations using words from earlier in the brief.

Attorney said a GPT search using a case name provides results which appear to validate a citation, but the GPT won’t find the case if you put the whole citation in quotes.

Attorney added that “we are 100% invested in the GPTs and plan to expand our use of it.” He acknowledged that GPTs “hallucinate,” and that “we can’t completely limit the GPT’s predictive modeling to a factual parameter.”

- “‘ChatGPT run amok’: Counsel must explain ‘purportedly false references’”, Virginia Lawyer’s Weekly, August 12, 2024

# Future Use Case:

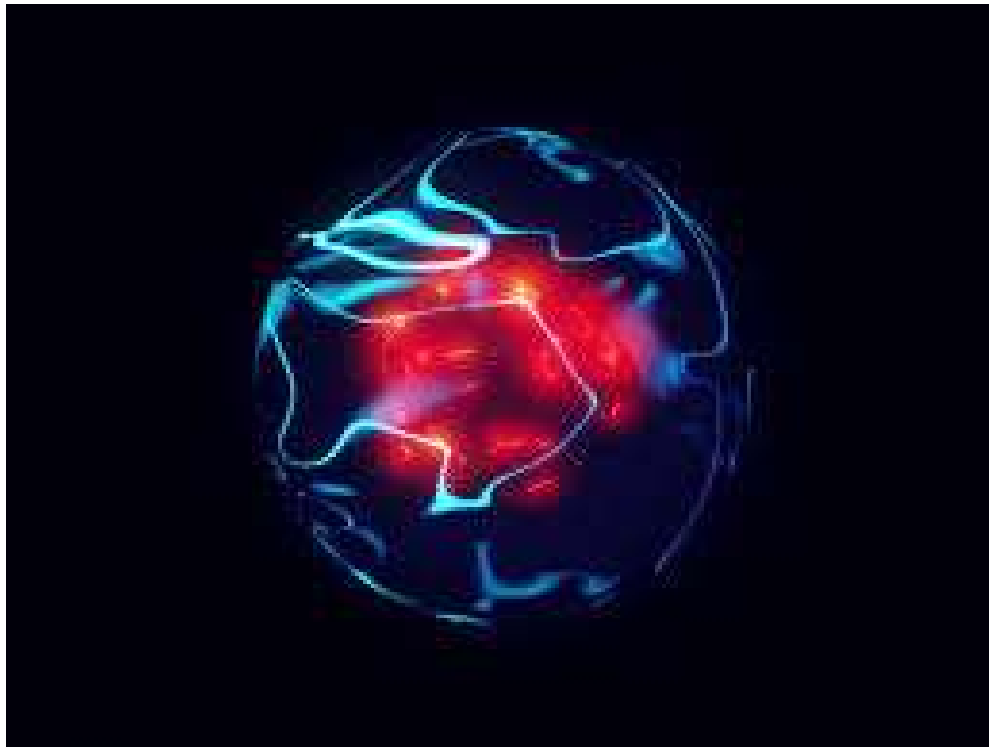
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PERSONAL LEGAL ASSISTANT



# Meet AI.DA

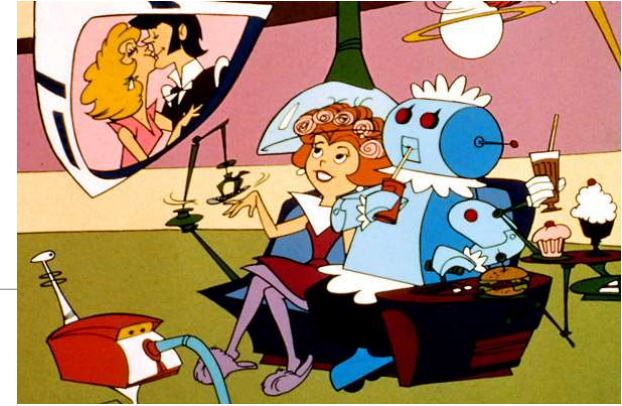
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\* Courtesy of Eleven Labs #NotAnAd

# Final Thoughts

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AI is going to be a part of our everyday lives very soon.

AI will be in the classroom. Everyone thought calculators would be the end of math tests – they were not.

AI will be in the home. Everyone thought only the wealthiest corporations would own computers – now everyone has one in their hand.

AI will be how we function in our daily lives. Cellphones used to only be for stockbrokers and real estate agents – now children have them.

# The Pursuit of Truth in Law is More Important Than Ever

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“The result of a consistent and total substitution of lies for factual truth is not that the lie will now be accepted as truth and truth be defamed as a lie, but that the sense by which we take our bearings in the real world—and the category of truth versus falsehood is among the mental means to this end—is being destroyed.”

➤ Hannah Arendt, *“Truth and Politics”*

"Do what you want with my music, just don't make me boring" *Freddie Mercury*



# Questions?

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## **Elliott Casey**

Commonwealth's Attorneys' Services Council

Staff Attorney

P. O. Box 3549

Williamsburg, Virginia 23187

[ejcasey@wm.edu](mailto:ejcasey@wm.edu)





# VIRGINIA IT AGENCY

## **APPLICATION CERTIFICATION**

Centralized ISO Security Services

Daniel Boakye  
Centralized ISO Security Analyst



## Application Certification

The applications certified field is based on the status of the agency data asset inventory submission. Compliance is determined by the completion of the following:

- A device or product and service
- Business process
- Dataset
- Application sensitivity
- A URL associated (If the web category contains “website” a URL is needed)

## Dataset

- Provides organized, structured information that supports various activities such as data analysis, compliance, data consistency and integrity.
- Agencies will list if any regulatory information is housed within the dataset. Examples of regulatory data is Federal Tax Information (FTI), Personal Identifiable Information (PII), Protected Health Information (PHI), Payment Card Information (PCI), Family Educational Rights and Privacy Act (FERPA), etc.
- Agencies will list if the information within the associated application would be listed under as sensitive for the following:
  - Availability
  - Confidentiality
  - Integrity

## No URL Associated

- Web applications listed in Archer should have a listed URL for the website of the application.
- URL can be listed under the “URL – Scan Information” tab within the application.

## Product and Services/Devices

- Applications hosted in the cloud must be mapped to a product and service, if the application is on-prem it must be mapped to a device in Archer.
- For the agency specific application record, link it to the appropriate product and service instead of a device name

## Application Sensitivity

The sensitivity of an application is based on the criticality rating being high, medium, or low is determined by the business process and dataset mapped to the application.

- Does the application contain information protected by regulatory bodies or sensitive to Confidentiality, Integrity, and Availability.
- If there is conflicting information between the business process, dataset, and whether the sensitivity box is selected as YES or NO, then the sensitivity conflict will appear.
- Only your CSRM analyst can adjust the sensitivity of an application.

## Certification Computation

The application certification datapoint is determined by the percentage of the agency's applications that have been certified for the calendar year. Listed below is how agencies application certification datapoint is calculated:

- Compliant = 75% to 100% of the agency's applications are Certified
- Partial = 50% to 74% of the agency's applications are Certified
- Non-Compliant = Less than 50% of the agency's applications are Certified



VIRGINIA  
IT AGENCY

## **Google Chrome Browser Entrust Distrust**

VITA Review and Go-Forward for  
COV Servers - UPDATE

John C Del Grosso  
VITA SSDC Service Owner

November 6, 2024

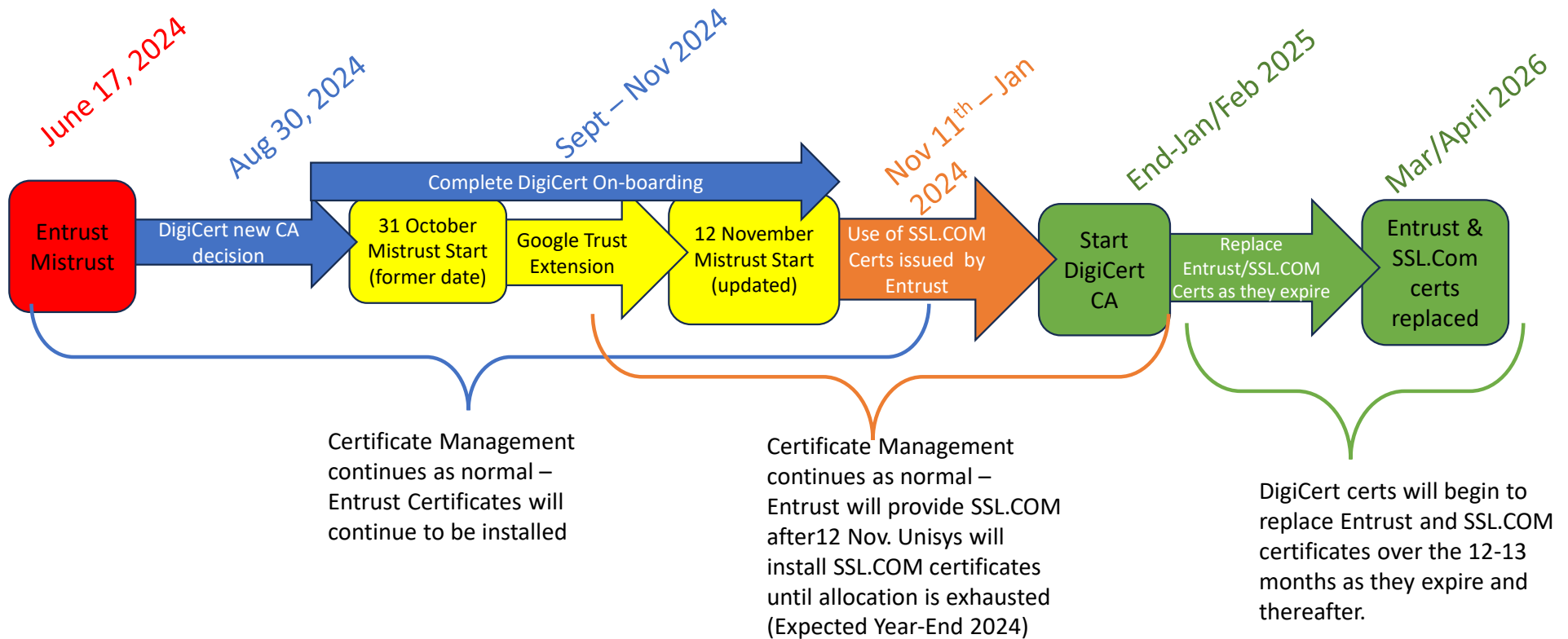
## All existing Entrust certs will operate without affect to users or systems past Nov 12 until expiration

- Google has agreed to **extend** the “Trust” duration from 31 October to 12 November 2024 due to Microsoft intervention and to allow November Patch Tuesday updates before the Distrust
- Unisys entered a volume-pricing agreement with Entrust earlier this year (Jan 2024) and intends to consume that advanced purchase as not to lose money on the DigiCert migration
- As Entrust will be re-selling their partners’ certificates, SSL.COM after 31 Oct. After 11 November, Unisys will issue SSL.COM certs until advanced purchase exhausted (~150 certs)
- VITA/Unisys will on-board DigiCert as the permanent new CA provider starting after January 2025, replacing SSL.COM/Entrust.
- DigiCert will be the sole provider of Certificates starting Feb 2025 and forward.

Please see the Entrust webpage for additional detail: [TLS Certificate Information Center](#) | [TLS Support](#) | [Entrust](#)



# Entrust CA Mistrust replacement lifecycle



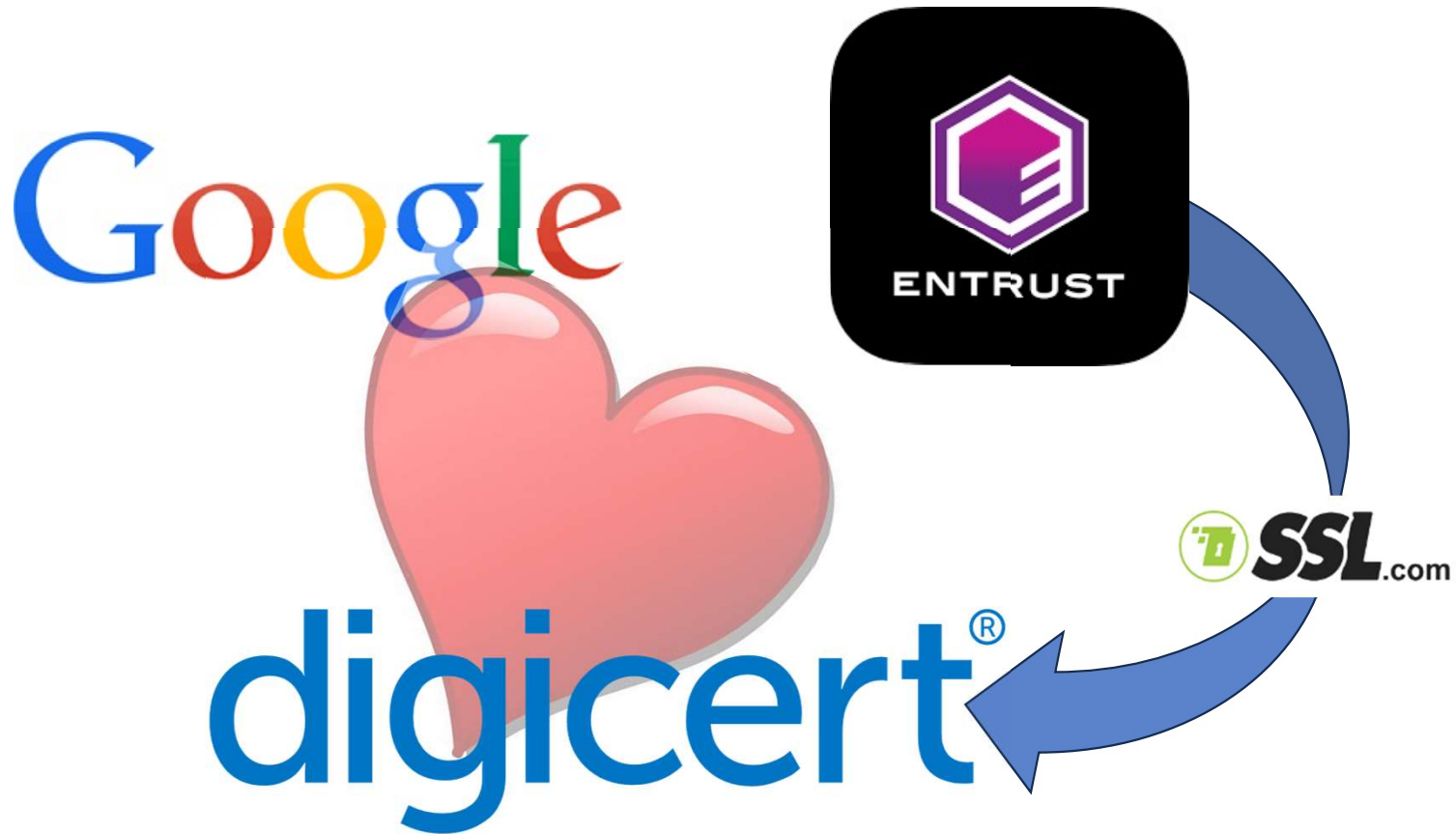
## Immediate and Long-Term Planning

- Immediate actions:

Immediate goal is to keep the service in place as it exists today and get to a steady state with a single new CA, DigiCert

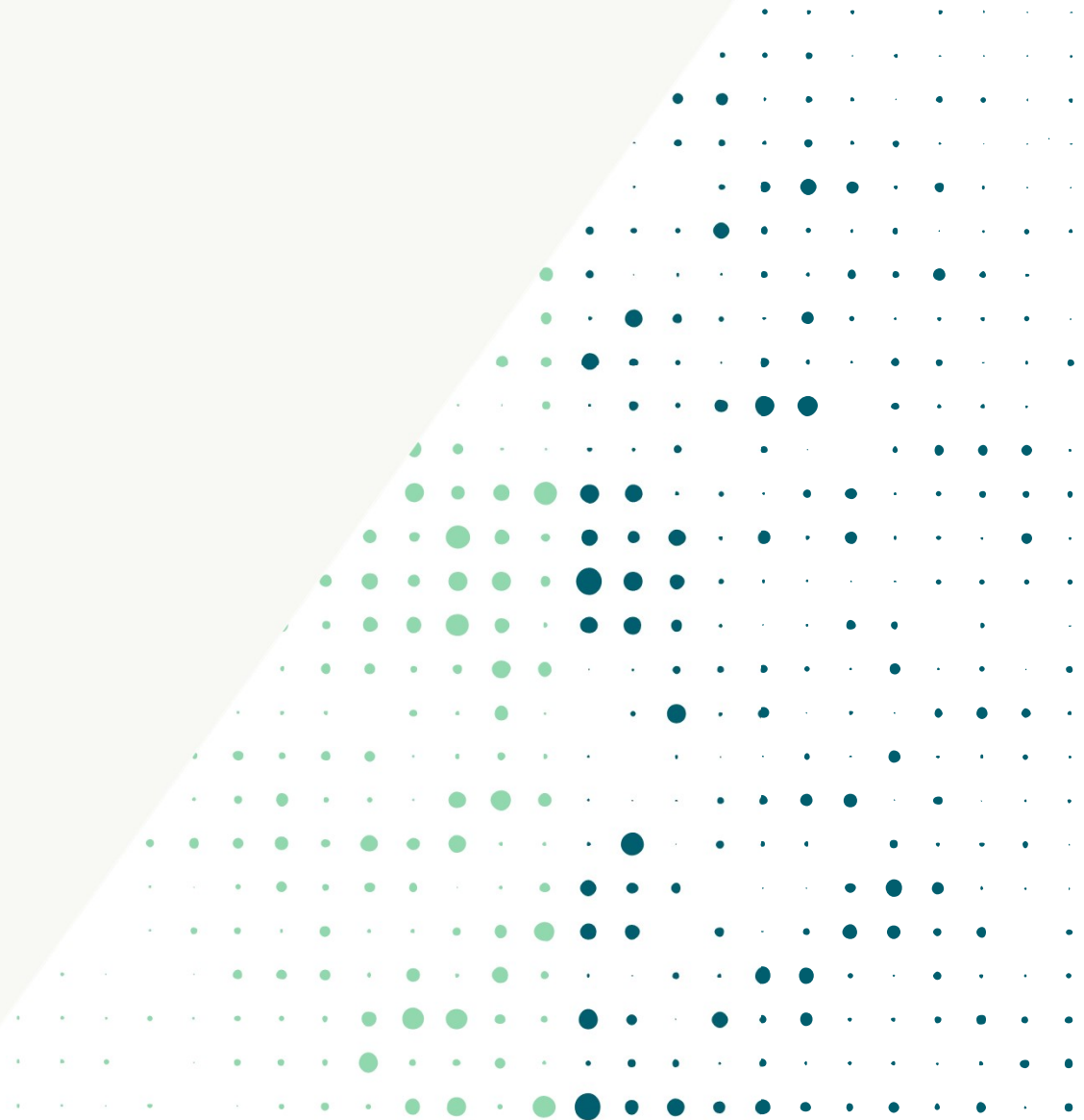
- Long-term goal:

An end-to-end full-service CA (DigiCert) that utilizes automation, notification, and business processes built-in for true modernized certificate management by with DigiCert as the sole CA provider next year (2025).



**Stay Tuned!**

**Questions?  
Thank you!**





# VIRGINIA IT AGENCY

## **CY24 Agency Scorecard Reminder**

IT Security Governance and Compliance

Erica Bland  
Manager, IT Security Governance and Compliance

# Agency Scorecard Reminders

Agency score metrics are captured from January 1<sup>st</sup> to December 31<sup>st</sup> of each calendar year. Deliverables for calendar year 2024 will be accepted until January 31, 2025, please submit them to the CSRM mailbox, [commonwealthsecurity@vita.virginia.gov](mailto:commonwealthsecurity@vita.virginia.gov)

As a friendly reminder, Agency head approved audit and risk assessment plans covering a three-year period are due annually.

If your ISO certification status is N/C, please reach out to your analyst to determine if you are due to attend IS orientation by the end of the calendar year, we have not received your notification for CPE completion, and/or you did not attend the mandatory October ISOAG meeting.

Please review your agency datapoints to ensure accuracy prior to the end of the calendar year. If you have any questions about the scorecard, please contact your CSRM analyst or Commonwealth Security.

ISOAG November 6, 2024

# Top 5 Vulnerabilities

For the Month of November, the Top 5 Key Vulnerabilities are:

- Apache Tomcat 9.0.0.M1 < 9.0.86 multiple vulnerabilities
- 7-Zip < 18.05 Memory Corruption Arbitrary Code Execution
- Apache Tomcat AJP Connect Request Injector (Ghoastcat)
- SSL Version 2 and 3 Protocol Detection
- Microsoft SQL Server Unsupported Version Detection





# Okta Verify

**For your awareness, Okta verify rollout is tentatively coming later this month.**



- **SPLUNK UPDATE OCTOBER 2024**



## **WE WANT YOUR LOGS:**

**VITA is starting to work with agencies to ingest their application logs in to the VITA Splunk instance. We ask that all agencies start identifying what logs you would like to have ingested. We are always happy to schedule a call to review your options.**

# Upcoming Events



VIRGINIA  
IT AGENCY

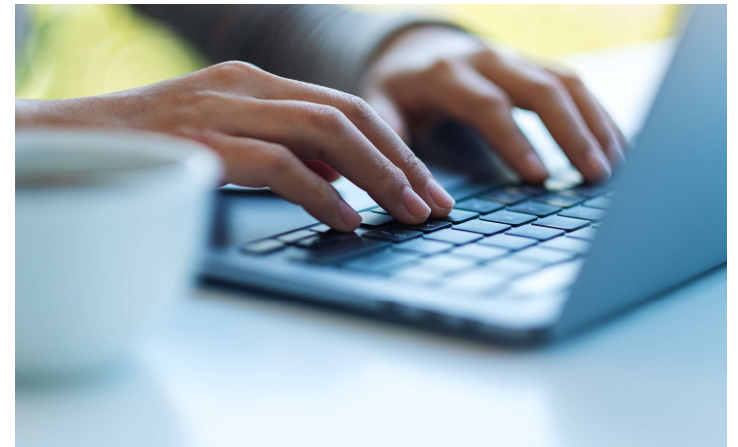
[vita.virginia.gov](http://vita.virginia.gov)

## IS Orientation

**The next IS Orientation is being held on December 11th**

- It will be held virtually via WebEx from 1pm-3pm
- Please register at the link below:

<https://covaconf.webex.com/weblink/register/r95e66428081159841dc039e8b5d756d1>



**MEETING  
ADJOURNED**



VIRGINIA  
**IT AGENCY**