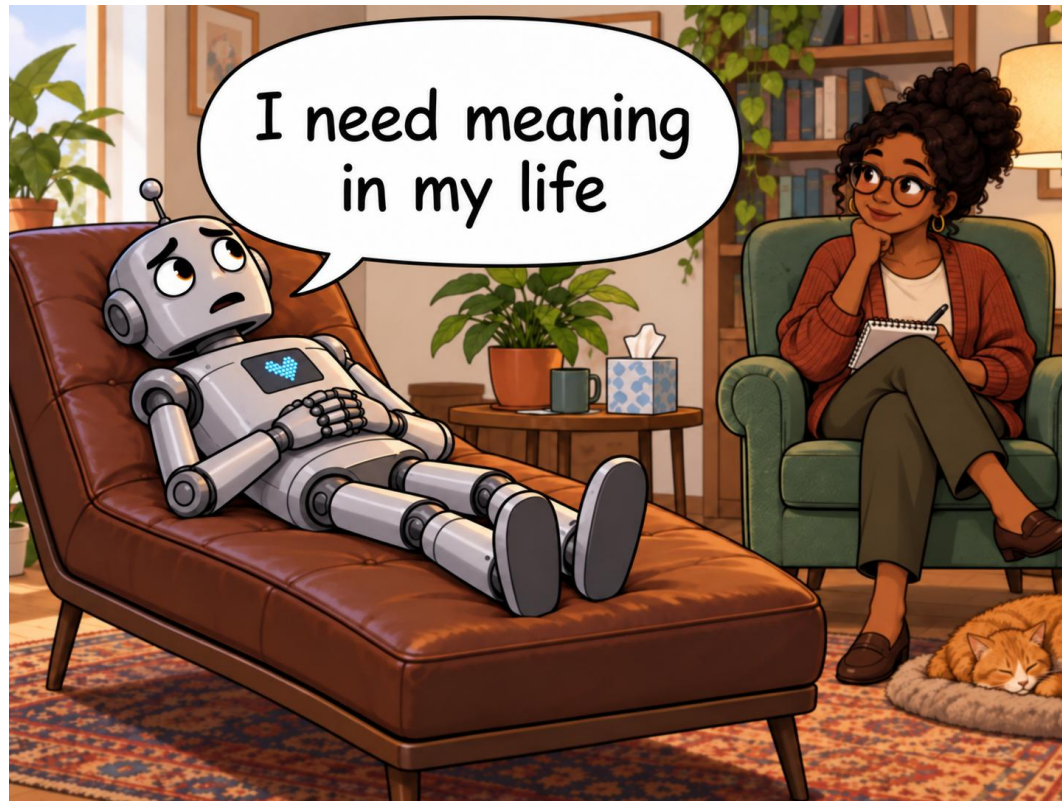


So you want to define AI?

Bryant Walker Smith

*Associate Professor, University of South Carolina
Affiliate Scholar, Stanford Center for Internet and Society*



Something has changed

1970

**“Intelligence is whatever
machines haven’t done yet.”**

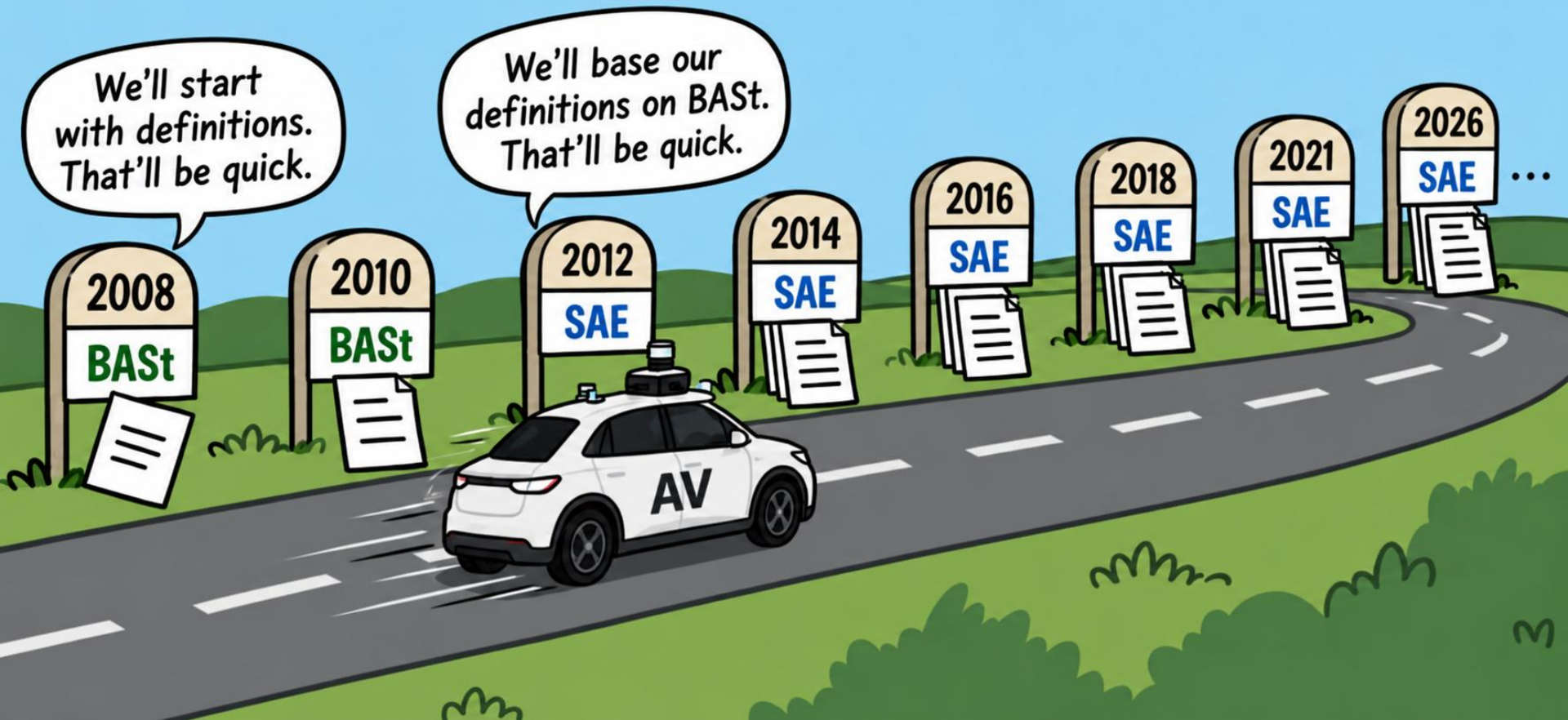
- Larry Tesler

2026

“I’m an AI assistant.”

- GPT-6 Astra

Here there be dragons!



Careful definitions are
necessary for legal drafting.

Working definitions may be
sufficient for policy research.

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necessary for legal drafting.

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sufficient for policy research.

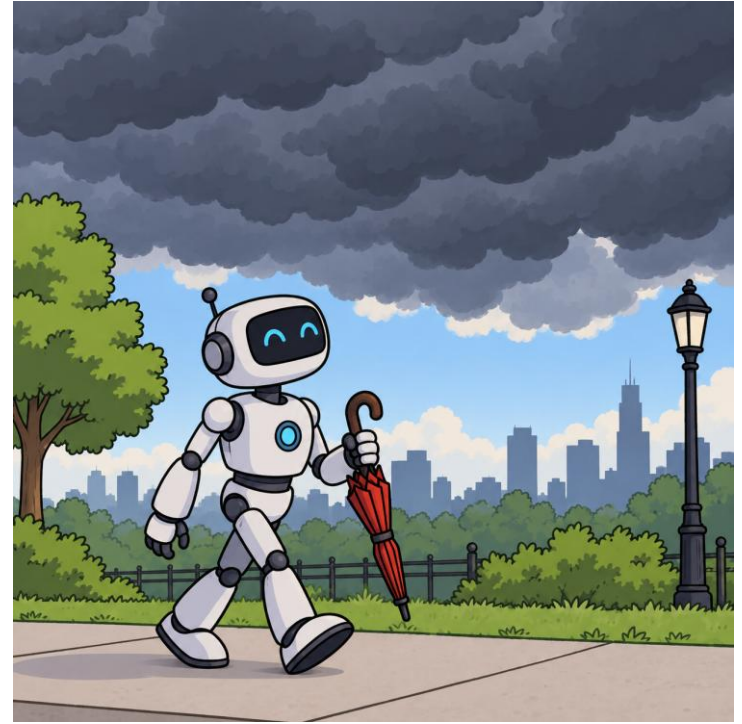
Close enough for horseshoes, hand grenades, and *early policy work*?



Jacobellis v. Ohio, 378 U.S. 184 (1964) (Justice Potter Stewart, concurring)

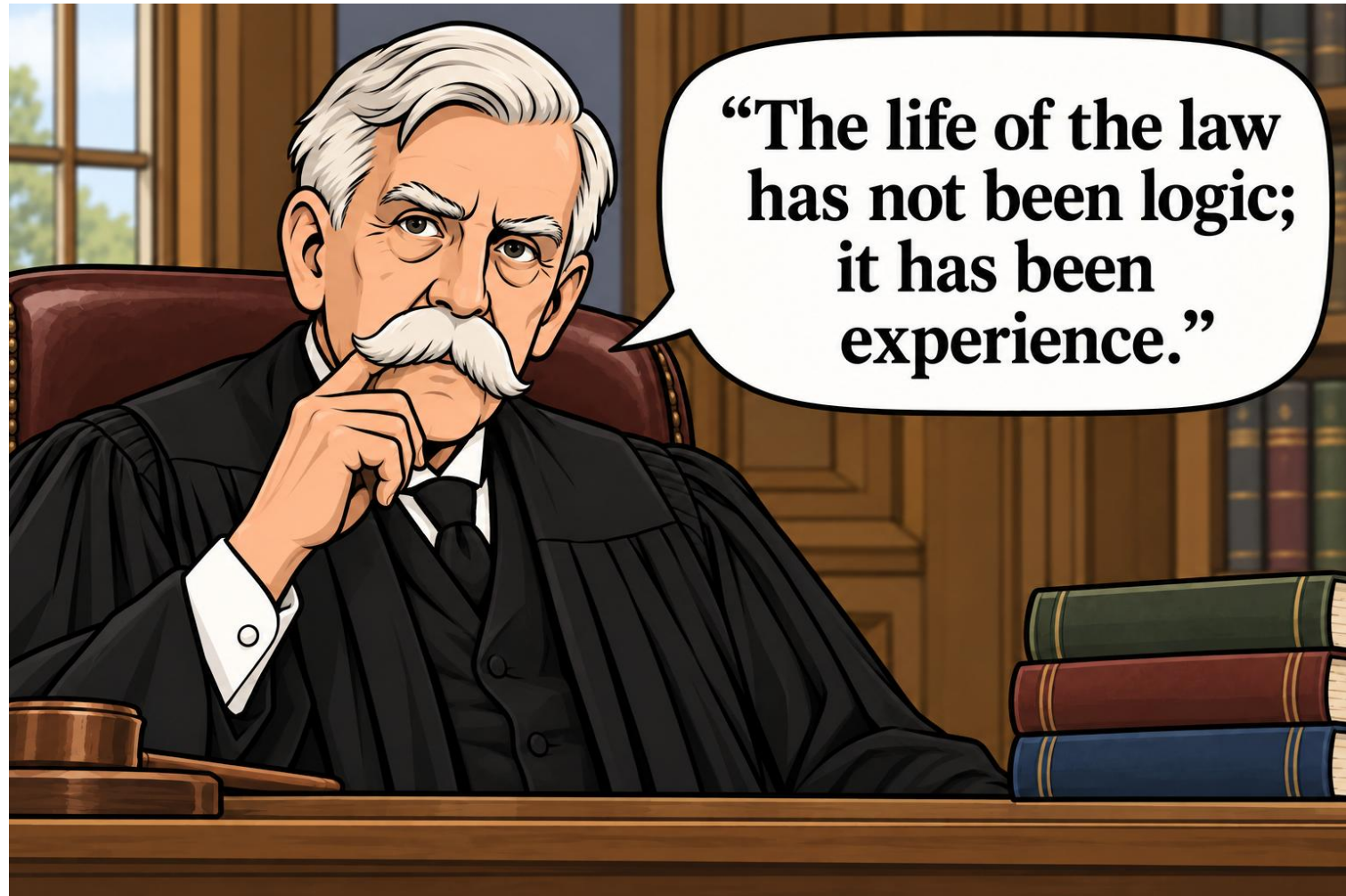
My working definition (2020)

“[AI] refers primarily to the ability of an automated system to *resolve uncertainty using experience.*”



Ethics of Artificial Intelligence in Transport, in
OXFORD HANDBOOK OF ETHICS OF ARTIFICIAL INTELLIGENCE





Oliver Wendell Holmes, Jr., THE COMMON LAW (1881)

“Logic”

Deduce from rules

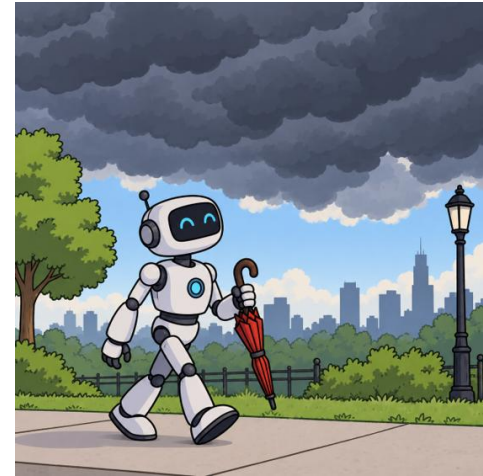
$$1 + 1 = 2$$



“Experience”

Predict from patterns

It will probably rain



Deterministic systems behave identically under identical conditions; nondeterministic systems may behave differently. Systems using probabilistic models assess the likelihood of different outcomes; their computations can be deterministic or nondeterministic.

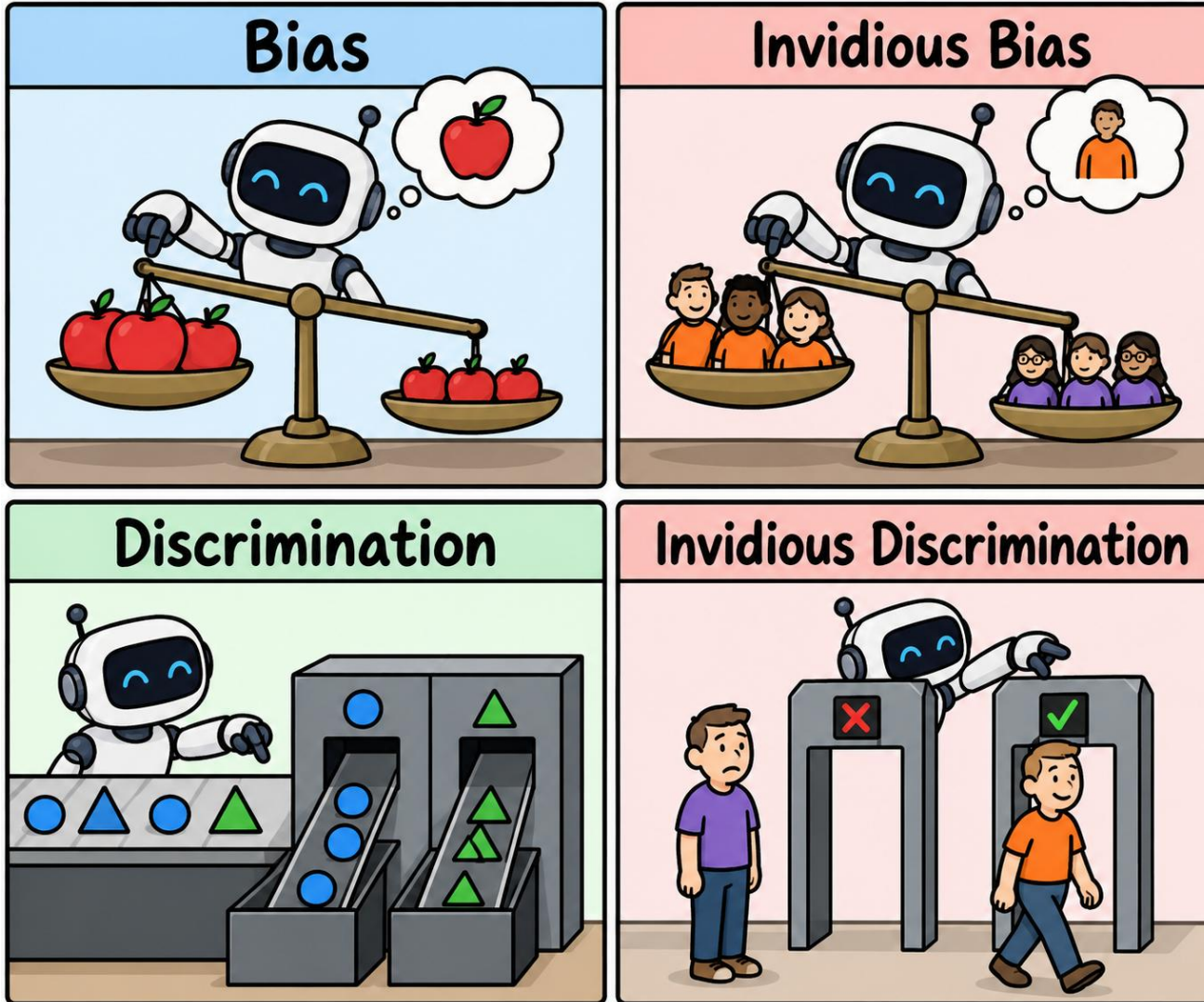
Stochastic processes use random choices that can change system behavior.

“But AI is an unpredictable,
uncontrollable, biased black box!”

So too are humans.

(And both are problems.)

The trouble with language



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McCain Nat'l Def. Auth. Act for FY 2019

[AI] includes the following:

- (1) Any artificial system that performs tasks under varying and **unpredictable circumstances** without significant human oversight, or that can **learn from experience** and improve performance when exposed to data sets.
- (2) An artificial system developed in computer software, physical hardware, or other context that solves tasks requiring **human-like** perception, cognition, planning, learning, communication, or physical action.
- (3) An artificial system designed to **think or act like a human**, including cognitive architectures and neural networks.
- (4) A set of techniques, including machine learning, that is designed to **approximate a cognitive task**.
- (5) An artificial system designed to **act rationally**, including an intelligent software agent or embodied robot that achieves goals using perception, planning, reasoning, learning, communicating, decision making, and acting.

Advancing American AI Act (2022)

“[AI means the same as in the McCain Act.]

[AI system]—

(A) means **any data system, software, application, tool, or utility** that operates in whole or in part using dynamic or static machine learning algorithms or other forms of artificial intelligence, whether—

- (i) the data system, software, application, tool, or utility is established **primarily for the purpose** of researching, developing, or implementing artificial intelligence technology; **or**
- (ii) artificial intelligence capability is **integrated** into another system or agency business process, operational activity, or technology system; and

(B) does **not** include any **common commercial product** within which [AI] is embedded, such as a word processor or map navigation system.”

“Common commercial product”?

September 29, 2025 • 5 min read

Vibe working: Introducing Agent Mode and Office Agent in Microsoft 365 Copilot



Estimating Breathing Disturbances and Sleep Apnea Risk from Apple Watch



September 2024

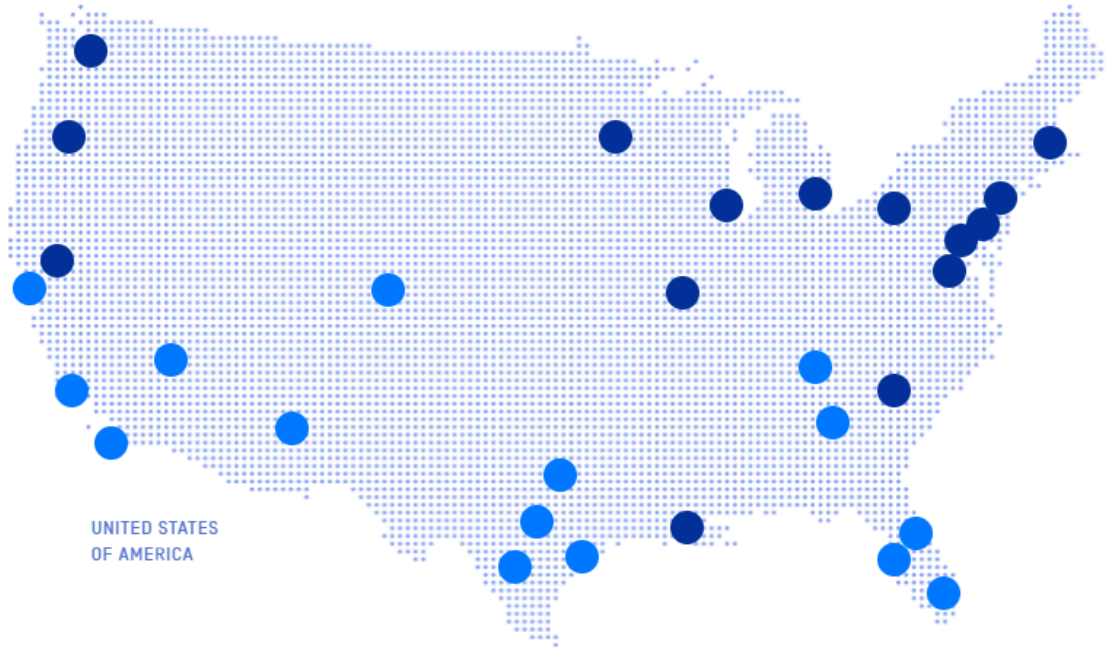
GE HealthCare Introduces Caption AI on Vscan Air SL Wireless Handheld Ultrasound System to Help More Clinicians Capture Diagnostic-Quality Cardiac Images

April 03, 2024



law of the
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newlypossible.org

Where Waymo is driving



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San Diego, CA
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Charlotte, NC
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EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

THE DIRECTOR

April 3, 2025

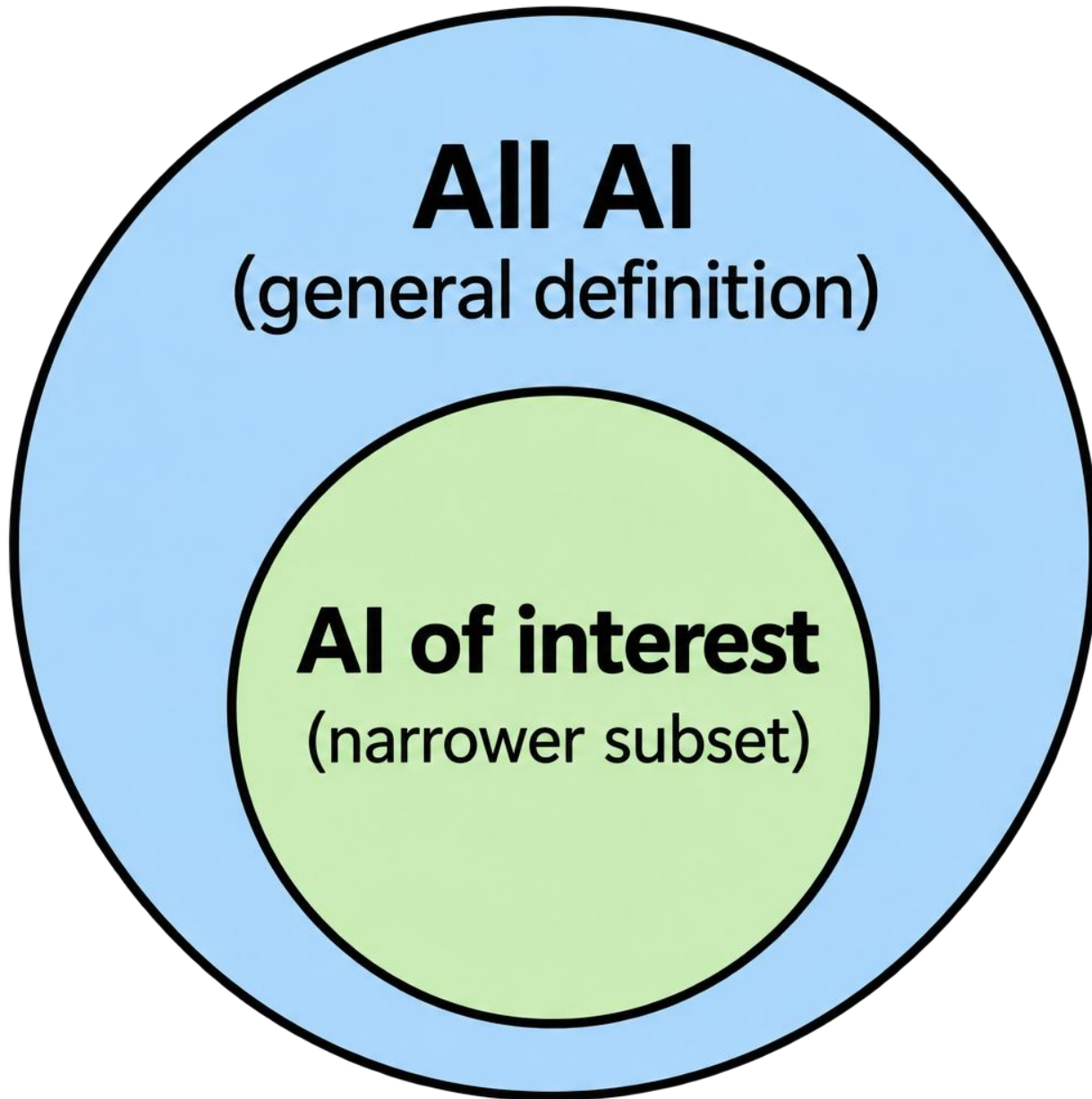
M-25-22

MEMORANDUM FOR THE HEADS OF EXECUTIVE DEPARTMENTS AND AGENCIES

FROM: Russell T. Vought
Director

SUBJECT: Driving Efficient Acquisition of Artificial Intelligence in Government

“For example, word processing software that is primarily used for its AI functionality likely would be covered.... On the other hand, common commercial word processing software that has substantial non-AI purposes or functionalities ... would likely fall within the exception....”

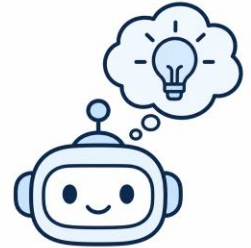


Overlapping criteria for *delimiting* AI

1. Human-like capabilities
2. Inference and adaptiveness
3. Technical methods
4. Scale and resource thresholds
5. Tasks and outputs
6. Breadth of capabilities
7. Deployment context
8. Decision-making role
9. Risk and consequences

1. Human-like capabilities

Does it perform tasks associated with human intelligence?



West Virginia: artificial intelligence

“computers and computer systems that, by design and function, perform tasks that would typically require human intelligence”

[W. Va. Code § 11-13Q-10a\(a\)\(3\)\(A\), excerpt \(manufacturing tax credit\)](#)

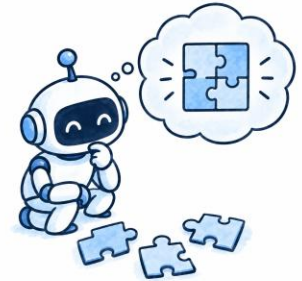
Other examples

United States, 2018 definition: human cognition and rational action

Kentucky, § 42.722(1): human intelligence or perception, plus machine learning

2. Inference

Does it infer outputs from inputs?



European Union: AI system

“infers, from the input it receives, how to generate outputs”

[EU AI Act, Art. 3\(1\), excerpt \(with post-deployment adaptation optional\)](#)

Other examples

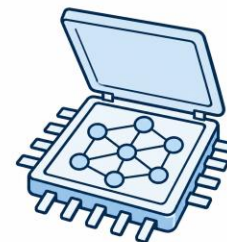
OECD, Recommendation of the Council on Artificial Intelligence (2024)

Vermont, 3 V.S.A. § 5021: perceives and interprets information to act

Utah, § 13-72-101(3): predicts, recommends or decides without an inference test

3. Technical methods

What techniques or processes does it use?



Texas: artificial intelligence system

“any machine learning-based system that, for any explicit or implicit objective, infers from the inputs the system receives how to generate outputs”

[Texas Insurance Code § 4201.002\(1-b\), excerpt \(insurance utilization review\)](#)

Other examples

Kentucky, § 42.722(1): machine learning and data-trained statistical models

Montana, § 2-10-203(1): also requires a machine learning-based system

4. Scale and resource thresholds

Does it exceed a specified measurable threshold?



California: frontier model

“a foundation model that was trained using a quantity of computing power greater than 10^{26} integer or floating-point operations.”

[Cal. Bus. & Prof. Code § 22757.11\(i\)\(1\)](#)

Other examples

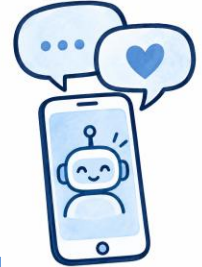
EU AI Act, Arts. 51–52: $>10^{25}$ training FLOPs supports a rebuttable presumption of high-impact capabilities

New York, § 1420(9): $>10^{26}$ operations (effective 2027)

(Common AI models have likely now passed these thresholds)

5. Tasks and outputs

What does it produce or accomplish?



California: companion chatbot

“is capable of meeting a user’s social needs, including by exhibiting anthropomorphic features and being able to sustain a relationship across multiple interactions.”

[Cal. Bus. & Prof. Code § 22601\(b\)\(1\), excerpt](#)

Other examples

ISO/IEC 22989:2022: emphasizing outputs and human-defined objectives

Utah, § 13-77-101(4): simulated consumer conversation

Minnesota, § 609.771: deepfakes defined partly by realism and false depiction (without general definition of AI)

6. Breadth of capabilities

How many kinds of tasks can it perform?



European Union: general-purpose AI model

“displays significant generality and is capable of competently performing a **wide range** of distinct tasks”

[EU AI Act, Art. 3\(63\), excerpt](#)

Other examples

Kentucky, § 42.722(8): broad task capability and integration into later systems

California, § 22757.11(f): broad data, general output and adaptability

7. Deployment context

Where, by whom, and for what is it used?



New York City: employment decisions

“used to substantially assist or replace discretionary decision making for making employment decisions that impact natural persons.”

[NYC Administrative Code § 20-870, excerpt](#)

Other examples

China, 2023 Interim Measures, Art. 2: generation services offered to public

Utah, § 13-77-103(2): high-risk interactions in regulated occupational services

8. Decision-making role

Does it support human judgment, substantially influence it, or make the final decision?



Vermont: automated final decision system

“an automated decision system that makes final decisions, judgments, or conclusions without human intervention.”

[3 V.S.A. § 3305\(a\)\(3\)](#)

Other examples

Vermont, § 3305(a)(4): automated support informs a human decision-maker

Montana, § 2-10-203(4): designed and deployed to make the decision, or substantially factors into consequential decisions

9. Risk and consequences

What interests could it affect, and how serious, likely, or widespread could the effects be?



Maryland: safety-impacting AI

“artificial intelligence that has the potential to significantly impact the safety of human life, well-being, or critical infrastructure.”

[Md. State Finance & Procurement § 3.5-801\(h\)](#)

Other examples

Maryland. State Fin. & Proc. § 3.5-801(g). Also defines *rights-impacting AI*

California, § 22757.11(c): specified catastrophic harms and severity thresholds

EU, Art. 3(65): systemic effects that can propagate at scale

Toward definitions: Your goals?

- Establish a shared vocabulary?
- Identify systems to inventory or study?
- Determine eligibility for support?
- Guide procurement and government use?
- Determine who has authority or responsibility?
- Identify when legal protections or duties apply?

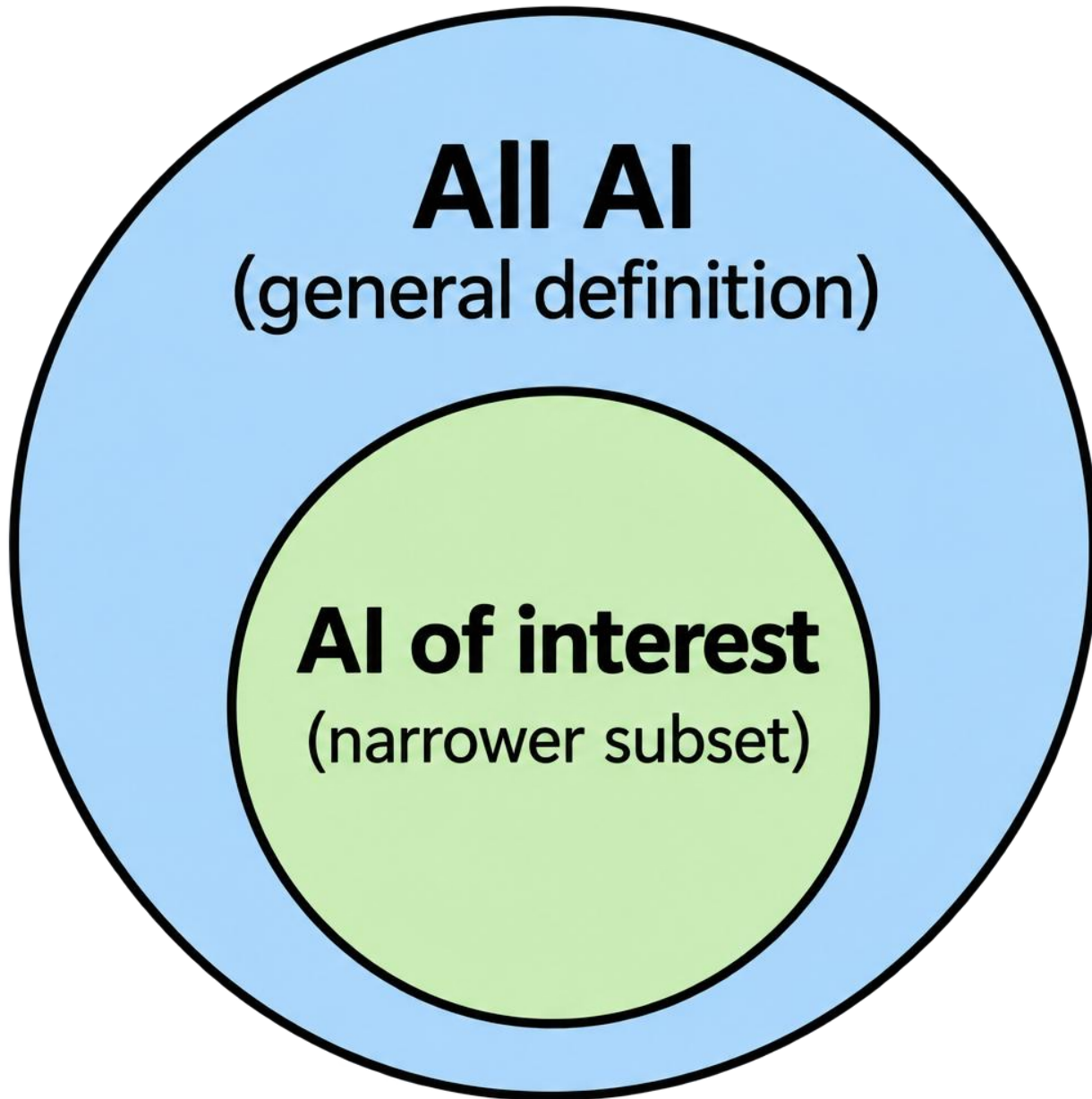
Toward definitions: Your priorities (especially when they conflict)?

- Technically sound?
- Clear about legal coverage?
- Practical to apply and enforce?
- Understandable to the public?
- Matched to the policy purpose?
- Independent of particular technologies?
- Compatible with related laws/definitions?
- Durable as technology changes?
- Easy to update?

Toward definitions: Your scope?

Which **concrete examples** must your definition include, which must it exclude, and which are especially difficult?

- How might you have answered this question five years ago?
- How would you answer it today?
- How might you answer it in five years?



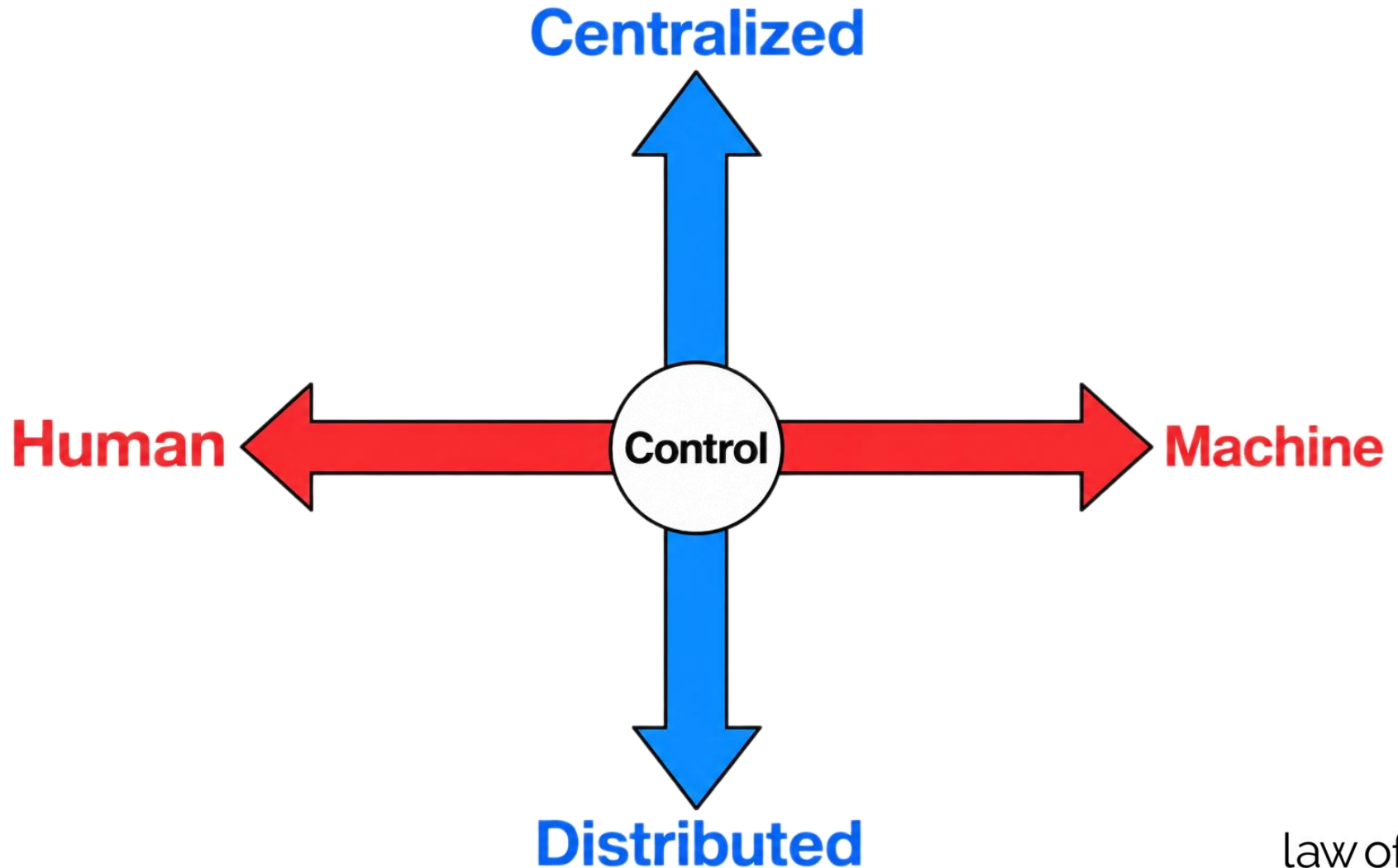
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sufficient for policy research.

Where I might start

1. AI means, *broadly*, the ability of a computer to navigate uncertainty by drawing inferences from experience available to it.
2. AI can refer to underlying technologies, implementations of those technologies, and uses of those implementations.
3. AI can also be described by how it works, what it can do, where and how it is used, and the risks and opportunities it presents.

Finally: *Control* matters....



So you want to define AI?

Bryant Walker Smith

*Associate Professor, University of South Carolina
Affiliate Scholar, Stanford Center for Internet and Society*

