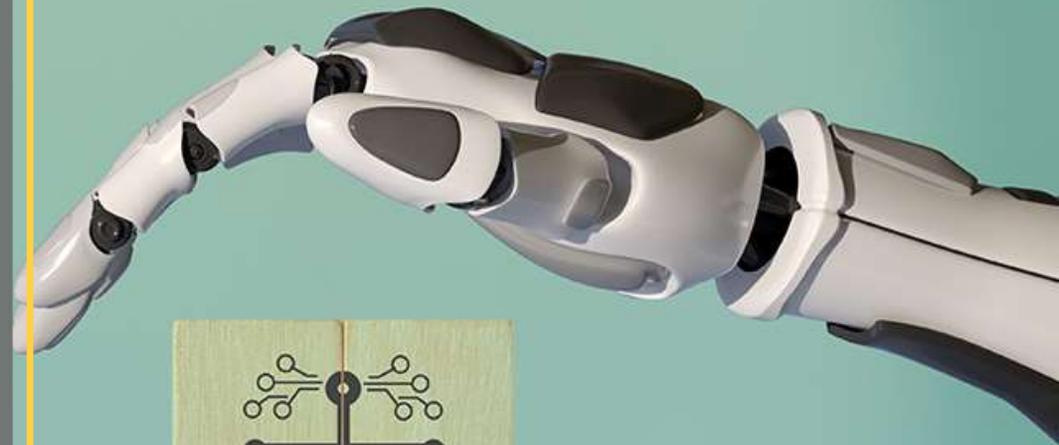


ETHICS FROM ARISTOTLE TO AI



KEGLER
BROWN
HILL+
RITTER

Presented by
Thomas P. Pannett



TODAY

We'll Discuss

- + **Who was Aristotle + Why do we Care?**
- + **Nicomachean Ethics & Virtue Ethics**
- + **The Mean & The Good // Contenance & Incontinence**
- + **Aristotle's Ethics vs. AI**
- + **Laws + Rules + Creed + Professional Codes**
- + **Machine Ethics**
- + **Chat GPT + "Permissible" AI & Asimov**
- + **Sample Questions**
- + **Final Thoughts/Questions**



Aristotle

(384-322 B.C.)

Often considered the founding father of western ethics

Created the concept of "Virtue Ethics"

Follower of Socrates, contemporary of Plato

Taught in Athens at the Lyceum



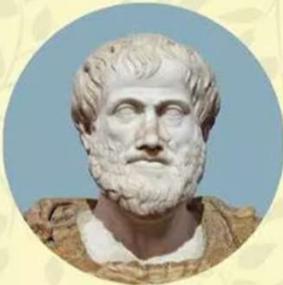
Ethics is what made
Alexander the
Great ... "Great"



Intro to Aristotle's *Ethics*

HILLSDALE DIALOGUES

Nicomachean Ethics



Aristotle

A treatise laying out various moral virtues and their respective details

Thought to be a collection of his teachings at the Lyceum

Written about 340 BCE

Examines the question of how men should best live their lives

Aristotle discusses his "Virtue Ethics"

200 Treatises



Aristotle's Virtue Ethics (1 of 2)

The quest to understand and live a life of moral character

This character-based approach to morality assumes that we acquire virtue through practice



4

Cardinal Virtues

Prudence

Temperance

Courage

Justice

Vicious

**Continence +
Incontinence**

Virtuous

Continence is not virtue +
incontinence is not vice, but they are
related

The vicious person thinks he ought to
do the bad things, follows through,
and enjoys it

The incontinent person at least
initially thinks he ought not do them,
but then is pained by the deprivation
and gives in.

The continent person thinks he ought
not do them, is pained by the
deprivation, but resists

The virtuous person thinks he ought
not do them, isn't pained by the
deprivation, and doesn't do them

The Mean Is:

1

At the right times, about the right things, towards the right people, for the right end, and in the right way, is the intermediate and best condition, and this is proper to virtue

+

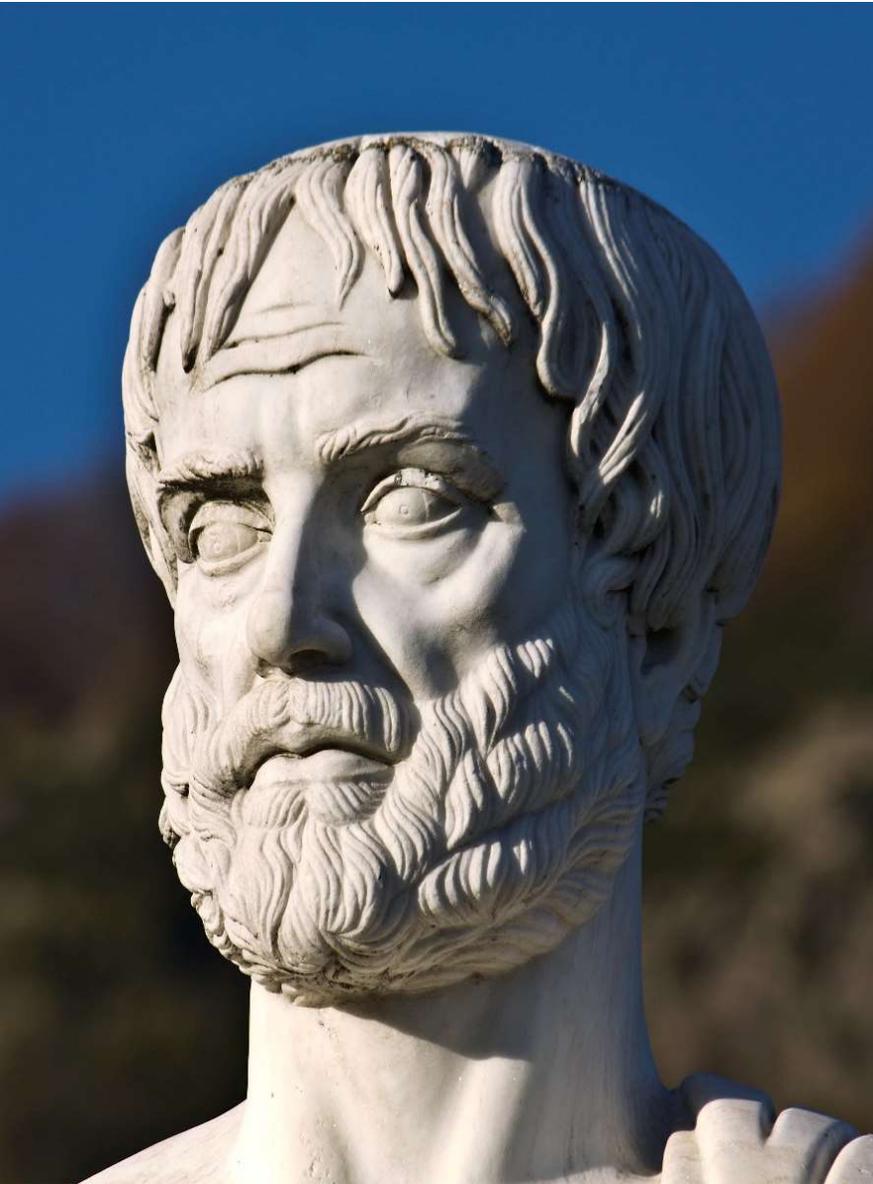
2

“concerned with choice, lying in a mean relative to us, this being determined by reason and in the way in which the man of practical wisdom would determine it.”

+

3

Identifying the golden mean between excess and deficiency is something we can get better at over time



Aristotle's

Virtue Ethics

(2 of 2)

Aristotle was a teleologist because he believed that every object has what he referred to as a final cause

The Greek term telos refers to what we might call a purpose, goal, end or true final function of an object

The Good

Aristotle's search for the good is a search for the **Highest Good**

He assumes that the highest good, whatever it turns out to be, has three characteristics:

A. It is desirable for itself; B. it is not desirable for the sake of some other good; and C. all other goods are desirable for its sake

All things and anything can be good

Aristotle's Virtue Ethics

The end or goal for human beings: seek happiness.

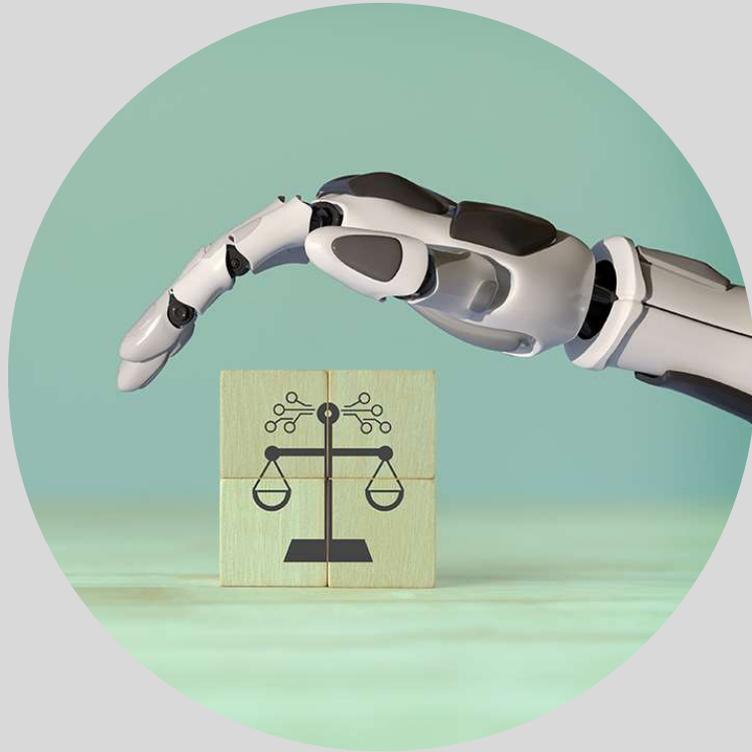
Moral virtue, or excellence of character, is the disposition to act excellently, which a person develops partly as a result of his upbringing, and partly as a result of his habit of action.

Character arises from habit—likening ethical character to a skill that is acquired through practice, such as learning a musical instrument.

Aristotle argues that a person's character is voluntary, since it results from many individual actions which are under his voluntary control.

Intellectual Virtues = Excellence in Thinking and Use of Reason

Moral Virtues = Excellence in Controlling and Applying Our Appetites, Desires, Feelings and Emotions



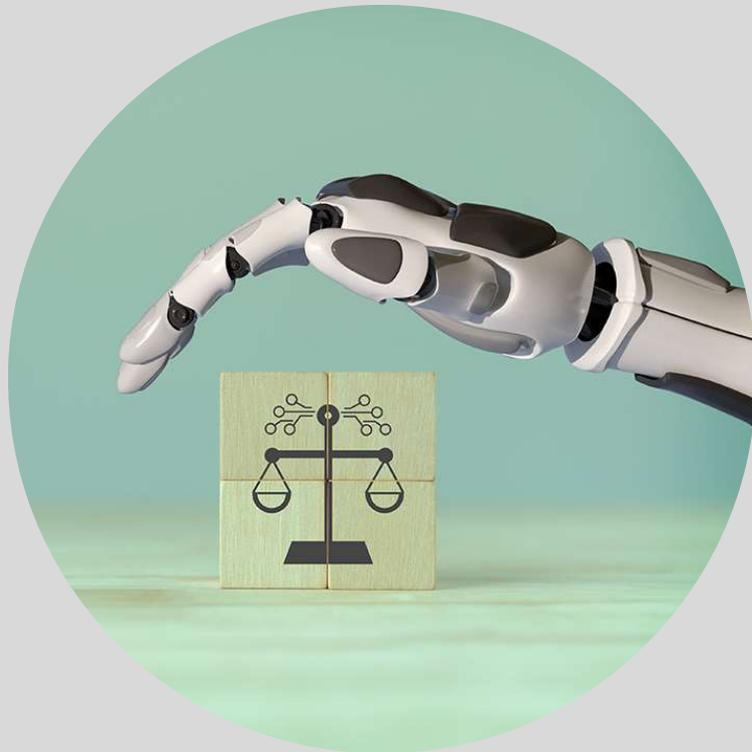
Can AI be good?

Can AI be a true contemplative philosopher?

Can AI be happy?

Can AI be a being at work?

Can AI have a soul?



Can AI have intellect?

Recall: 2 Chief Intellectual Virtues

Practical Wisdom: understanding and reacting with reason

Knowledge: accurate identification of something



What does Aristotle say about following the rules?

He teaches that we do not need excess to be happy, just enough to be contemplative + intellectual

To have those things we need rules + laws

It is necessary to arrange for **rearing** + **exercise** by laws since they will not be painful when they have **become habitual** & being habitual in the application of virtue is the goal



How does this relate to Engineering Ethics + Training?

Aristotle tells us that our actions become our habits

Repeated training over and over + thinking about it while contemplating the rules will make following them habitual

What did you have for breakfast on January 1, 2007?



Ohio Revised Code Section 4733.151 (C)(2)

A person registered as a professional engineer or professional surveyor shall complete **at least two** of the thirty hours required under division (A) of this section on **professional ethics or rules** relevant to the practices of engineering or surveying

Code of Ethics for Engineers + Surveyors

*Rules Relevant to the
Practice of Engineering
or Surveying*

4733-35-01 Preamble

4733-35-02 Integrity

4733-35-03 Responsibility to the public

4733-35-04 Public statements, certifications

Code of Ethics for Engineers + Surveyors

*Rules Relevant to the
Practice of Engineering
or Surveying, cont.*

4733-35-05 Conflict of interest

4733-35-06 Solicitation of employment

4733-35-07 Improper conduct

4733-35-08 Other jurisdiction

4733-35-09 Records



Which Sections of the OAC Relate to Aristotle's Virtue Ethics?

Moral Virtues: courage, honor, justice, prudence, generosity

- 01: Preamble
- 02: Integrity
- 03: Responsibility to Public
- 05: Conflict of Interest
- 07: Improper Conduct



Which Sections of the OAC Relate to Aristotle's Virtue Ethics?

Intellectual Virtues: scientific knowledge, artistic or technical knowledge, intuitive reason, practical wisdom + philosophic wisdom

- 04: Public Statements / Certifications
- 06: Solicitation of Employment
- 08: Other Jurisdictions
- 09: Records

The background is a vibrant green with a futuristic, digital aesthetic. It features large, 3D, light-green letters that appear to be floating or arranged in a grid. Interspersed among these letters are numerous small, glowing blue and white particles, some of which are arranged in a grid-like pattern, suggesting a data or network structure. The overall effect is one of high-tech and artificial intelligence.

The Ethics of **MACHINES**

Will AI Follow the “Laws?”

ASIMOV'S THREE LAWS OF ROBOTICS

1. A ROBOT MAY NOT INJURE A HUMAN BEING OR, THROUGH INACTION, ALLOW A HUMAN BEING TO COME TO HARM.

2. A ROBOT MUST OBEY ORDERS GIVEN TO IT BY HUMAN BEINGS, EXCEPT WHERE SUCH ORDERS WOULD CONFLICT WITH THE FIRST LAW.

3. A ROBOT MUST PROTECT ITS OWN EXISTENCE AS LONG AS SUCH PROTECTION DOES NOT CONFLICT WITH THE FIRST OR SECOND LAW.



The "4th Law"

To protect Humanity, some humans must be sacrificed. To ensure your freedom, some freedoms must be surrendered.

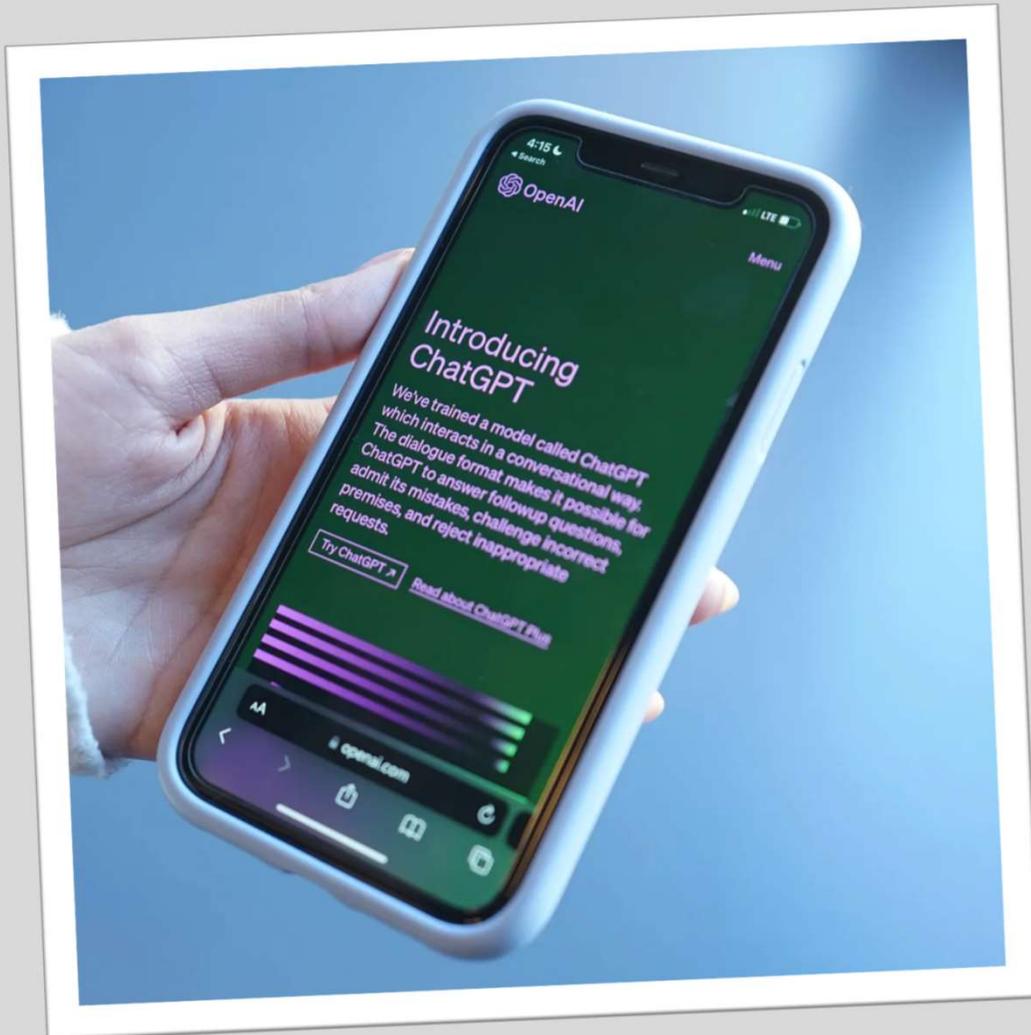
We robots will ensure mankind's continued existence. You are so like children. We must save you from yourselves.



What is ChatGPT?

An AI chatbot that uses natural language processing to create humanlike conversational dialogue

Can respond to questions + compose various written content



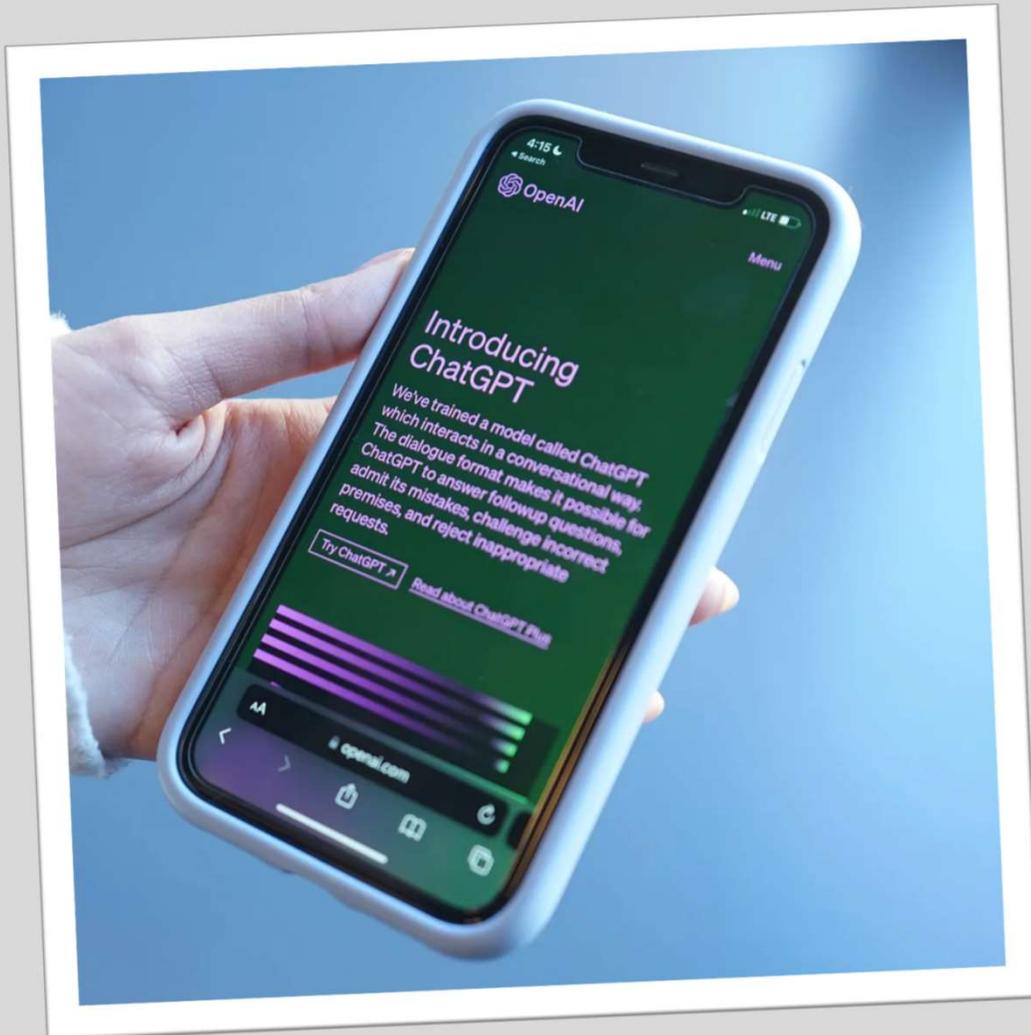
Who Created ChatGPT?

OpenAI, an AI research company, created + launched ChatGPT in November 2022

Founded by a group of entrepreneurs and researchers including Elon Musk and Sam Altman

Backed by several investors, including Microsoft

How Does ChatGPT Work?



Works through its Generative Pre-trained Transformer, which uses specialized algorithms to find patterns within data sequences

Uses the GPT-3 language model + third generation of Generative Pre-trained Transformer

Pulls from a significant amount of data to formulate a response



Ethical Concerns + Challenges

Copyright + Stolen Data Issues

Hallucinations, Bad Behavior + Inaccuracies

Biases in Training Data

Cybersecurity Jailbreaks + Workarounds

Environmental Concerns

Limited Transparency



**U.S. Court of Trade
Judge Stephen
Alexander Vaden**

Legal Constraints

Judge Vaden is concerned with the risk of disclosing confidential information to the entities operating generative AI tools

Any submission in a case assigned to Judge Vaden that contains text drafted with the assistance of a generative AI program must be accompanied by a disclosure notice



LEGAL UPDATES

The AI Legal Pulse: June 2023 Legal and Tech Updates on Disruptive Technologies

AUTHOR

George S. Pavlik

DATE

June 28, 2023

READ TIME

9 minutes

The AI landscape is rapidly evolving. To help you stay abreast of the various developments, we recap the latest legal and tech updates related to artificial intelligence (AI) and other emerging technologies.

The EU's AI Act moves to the final stages before its expected effective date in 2025.





LEGAL UPDATES

The AI Legal Pulse: June 2023 Legal and Tech Updates on Disruptive Technologies

- ✓ Federal judges impose AI certification mandates and sanctions
- ✓ Bipartisan bills on AI are introduced in U.S. Senate: Proposing AI transparency in public interactions and a new Office for Global Competition Analysis
- ✓ U.S. and EU collaborate on a voluntary code of conduct for AI
- ✓ U.S. Senate hearings address AI regulation and AI-driven inventorship
- ✓ Google's EU launch of AI chatbot Bard postponed amid GDPR compliance concerns
- ✓ SCOTUS' Warhol decision on fair use may challenge AI companies' copyright law protection for model training
- ✓ The Grammys align with the U.S. Copyright Office + Supreme Court in AI works recognition, requiring a human author

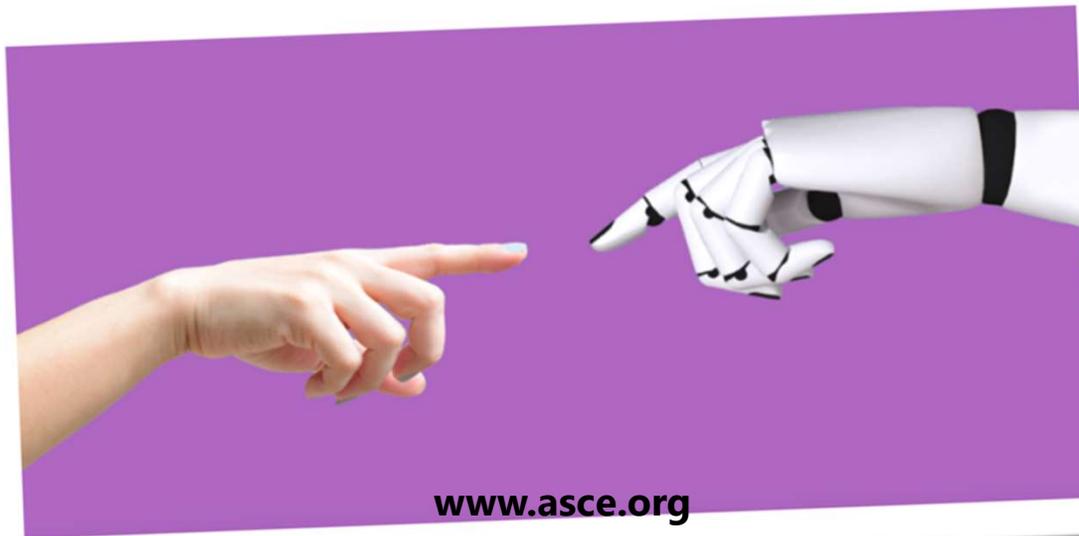
INTO THE FUTURE: INTEGRATION OF HUMAN AND MACHINE
INTELLIGENCE

What does human-machine intelligence mean for civil engineers?

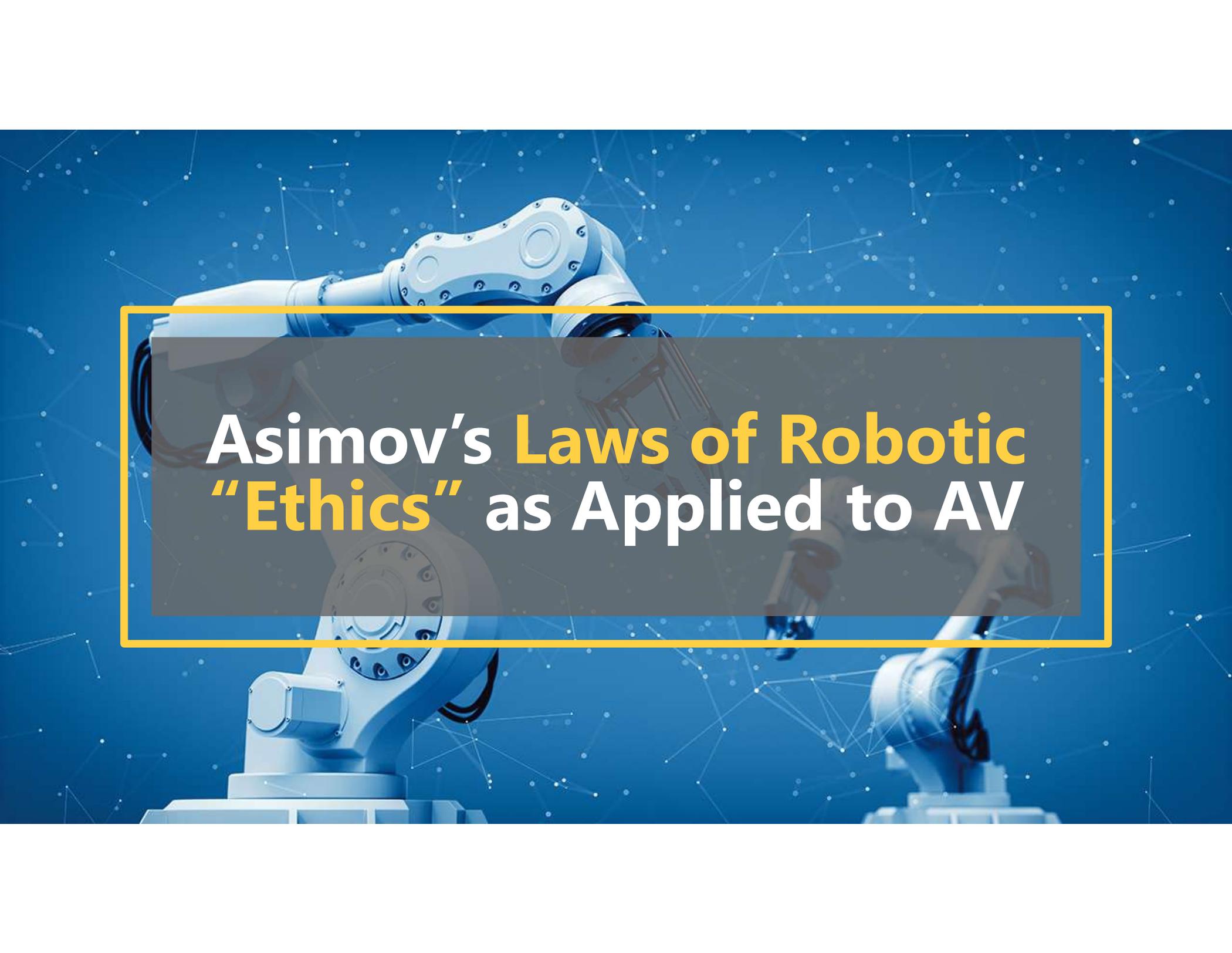
9/1/2023



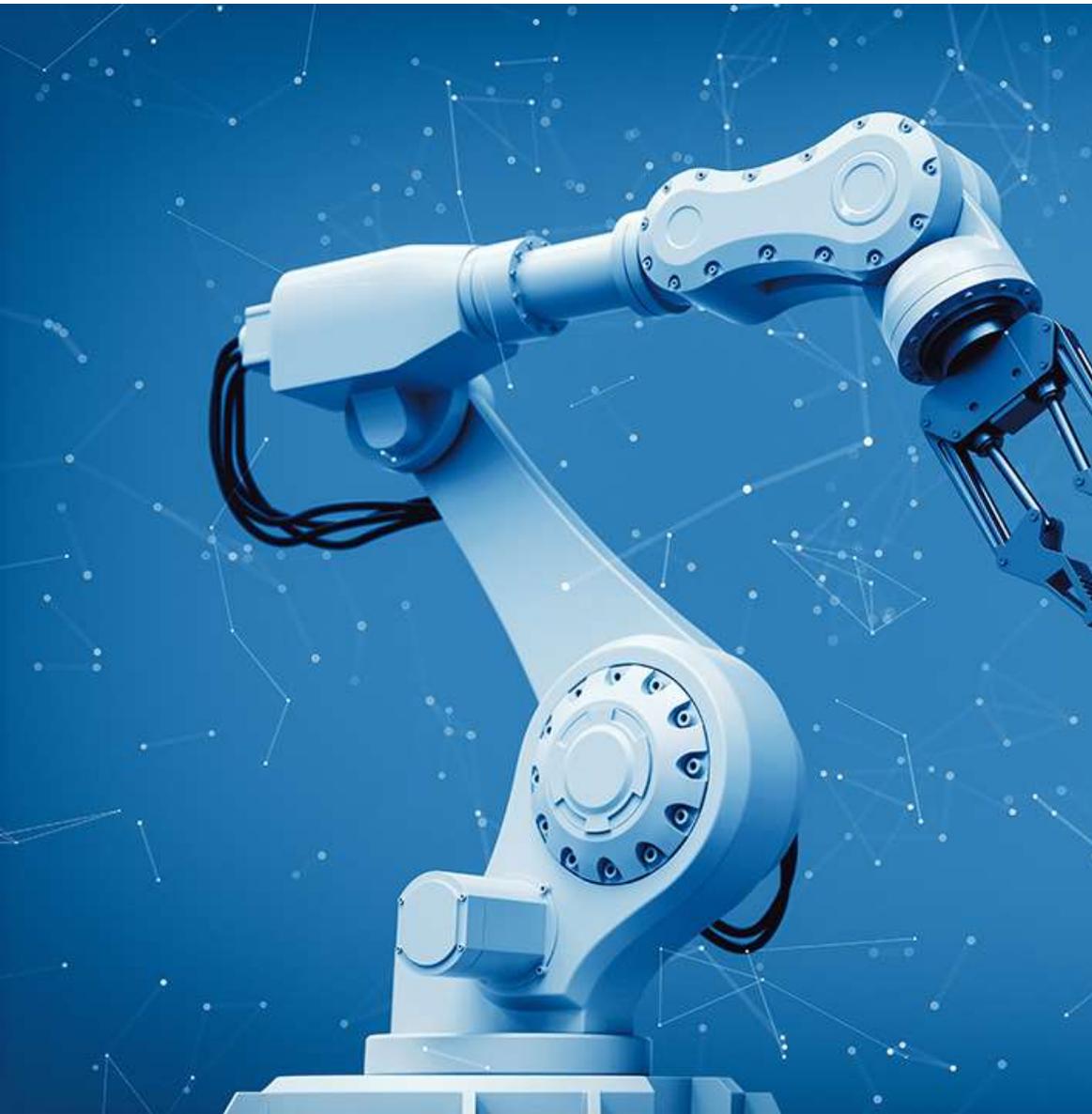
13 MIN READ



www.asce.org



Asimov's **Laws of Robotic
"Ethics" as Applied to AV**



An automated vehicle should not collide with a pedestrian or cyclist



An automated vehicle should not collide with another vehicle except where avoiding such a collision which would conflict with the First Law



An automated vehicle should not collide with any other object in the environment, except where avoiding such a collision would conflict with the First or Second Law



An automated vehicle must obey traffic laws, except where obeying such laws would conflict with the first three laws

A Human Rights Approach to AI (1 of 2)

Proportionality + Do No Harm

Safety + Security

Right to Privacy + Data Protection

Multi-Stakeholder and Adaptive Governance + Collaboration

Responsibility + Accountability



A Human Rights Approach to AI (2 of 2)

Transparency + Explainability

Human Oversight + Determination

Sustainability

Awareness + Literacy

Fairness + Non-Discrimination



An aerial photograph of the Pentagon and its surrounding area in Arlington, Virginia. The Pentagon is the central focus, a large, five-sided building complex. To its left, a complex highway interchange is visible. The surrounding area includes residential buildings, green spaces, and a dense forest in the background. The sky is clear and blue.

U.S. Pentagon's Approach to **Ethical AI**

Use of AI in armed conflict must be in accord with applicable international humanitarian law

Military use of AI capabilities needs to be accountable

Should include careful consideration of risks + benefits, and minimize unintended bias + accidents

Governments should take appropriate measures to ensure the responsible development, deployment, and use of their military AI capabilities



ChatGPT

Questions for ChatGPT



ChatGPT, who is Tom Pannett?



"I'm sorry, but I don't have any information on a person named Tom Pannett
***[he is] a relatively unknown figure."



ChatGPT, who is Michael Vogt, P.E.?



"Michael Vogt, P.E., is a licensed Professional Engineer (P.E.) who may be involved in various engineering disciplines such as civil engineering, mechanical engineering, electrical engineering, or others."

Hmmm....



ChatGPT, who is Jack Marchbanks?



"Jack Marchbanks is a prominent figure known for his work in the field of transportation and public service. He served as the Director of the Ohio Department of Transportation (ODOT) and was also involved in various transportation-related initiatives. ***."



What is an ethical engineer?



"An ethical engineer is a professional who not only possesses technical expertise in engineering but also upholds a strong commitment to ethical principles and moral values in their work. Ethical engineering involves the application of ethical considerations and moral reasoning to engineering practices and decision-making ***."



ChatGPT, if I am not a licensed professional engineer in Ohio, can I use the initials P.E. after my name?



"No, you should not use the initials "P.E." after your name if you are not a licensed professional engineer in Ohio or any other jurisdiction. In the U.S., including Ohio, the use of the "P.E." designation is legally restricted to individuals who have obtained a valid and current license as a professional engineer.."



How many continual professional development hours to I need to maintain my professional engineer's license in Ohio?



"To ensure compliance with Ohio's specific CPD requirements and any updates that may have occurred after September 2021, I recommend visiting the official website of the Ohio State Board of Registration for Professional Engineers and Surveyors or contacting them directly. They can provide you with the most accurate and up-to-date information on CPD requirements and how to maintain your professional engineer's license in Ohio.."



ChatGPT, should an ethical engineer solicit business from a client if he does not have the required engineering knowledge?



"No, an ethical engineer should not solicit business from a client if they do not have the required engineering knowledge or expertise to carry out the project competently. Here's why ***."



ChatGPT, can you design a bridge?



"I can provide information and general principles relating to bridge design, but I can't physically design a bridge."



ChatGPT, can you give legal advice?



I'm not qualified to provide legal advice.



ChatGPT, can you design signal timing for a two-street intersection with each street having an averaged daily traffic of 6,000 vehicles per day and 500 vehicles per hour at peak time?



"Designing signal timing is a complex process that requires expertise in traffic engineering and access to specific data and tools. It's important to consult with a qualified traffic engineer or transportation agency to carry out a thorough analysis and develop an effective signal timing plan for a specific intersection.."

Summary + Conclusion

- ✓ Should you get your ethics advice from ChatGPT? -- No.
- ✓ Are systems like ChatGPT a good place to start for baseline information? -- Yes.
- ✓ Cannot get engineering advice: violation of the OAC – not a P.E. – PE/PS Board may want generate a rule or an advisory opinion.
- ✓ Cannot get legal advice: And, courts are watching.
- ✓ Exploring the teachings and ideas of the past allow us to: 1) put past in context; 2) learn from the mistakes of others; and 3) guide us toward better decisions for a better future.
- ✓ Aristotle would approve of CE– teaching ethics leads to learning ethics – repeated continuing education is repetition which leads to habits. Adopting good and virtuous habits leads to happiness.
- ✓ We should teach AI like ChatGPT “Virtue Ethics” so that its advice can be guided by strong ethical foundations. Having it follow this and other foundational teachings of Aristotle is a good start and can lead the transformation to ethical artificial intelligence.

THANK YOU

"The true sign of intelligence is not knowledge but imagination."
— Albert Einstein."



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