Humanity and Technology
Just because we can, should we ?

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Disclosures

- Employee of University of Florida
- No other financial disclosures
- Organizations
  - AMA, APA, Catholic Medical Association
- Pronouns : He/him
- Language: English only

- ACKNOWLEDGEMENT

- Author used AI tools such as Micosoft Co-Pilot and Open Access AI for writing.
- Content is sole responsibility of author.

Learning Objectives

- Describe a Multimodal AI Agent (AIA)
- Give examples from 4 areas of technology that will create new tensions among humans
- Describe the domains of tensions involving humans and technology
- Develop plans for personal ethical use of AI technology

Technologies

- Software
  - Artificial Intelligence (AI)
  - Multimodal agentic AI
  - General Artificial Intelligence
    - SuperIntelligence
- Hardware
  - Robotic functions (eg machine assemble tools)
  - General Robotics (humanoids with AI)
- Cyborg
  - Humans with machine enhancement (eg prosthetics, Neural links)
  - Machines with human tissue enhancement (eg neurotissue chips)
- Biological
  - Genetic modifications (CRISPR, Aging genes,)

Tensions

- Human vs Nature
  - Survival
- Human vs Human
  - Inequality in power and resources
- Humans vs Humans with Technology
  - Inequality in power and resources
- Humans with Technology vs Technology with Humans
  - Inequality in power and resources
  - Survival

Artificial Intelligence

- Focused AI
  - Speech recognition
  - Image recognition
  - Predictive analytics
- Multimodal AI
  - Integration of speech, text, image etc
- Agentic Multimodal AI
  - Integrated program that can take actions such as write prescriptions, provide education, make appointments, approve business transactions etc

Uses of AI in Clinical Care

cf Mesko and Gorog 2020* (updated 2024 by Thornton)

Consultations –

AI does initial H&P

*Generates Clinical Summaries as ambient scribe

Medication Management – smart app to assist patients to organize and remember medications

Diagnostics – e.g. diagnostic ultrasounds using cell phone on self

Predictive analytics – detecting risk factors for suicide, overdose etc.

Precision Medicine – using genomic data to select medications

Drug creation – matching molecular structures with therapeutic targets identified 2 existing drugs that could treat Ebola

Triage – during COVID who has been chance of survival with ICU care

* Referrals to palliative or hospice care

How AI improves the healthcare experience

cf Mesko

Topic: ChatGPT

- ChatGPT – proprietary type of large language model
- GPT – Generative Pre-Trained Transformer

- ChatGPT3 – advanced language model released Nov 30, 2022
  - 1 Million users within 5 days
  - Subject of intense interest and regulatory attempts in education, academic publications, law, business and healthcare
- Multiple competitive programs rushed to public availability
- Transformative impact on healthcare education 2023

A Day with CHIP

- Going to work

- Interacting with Research Colleagues
- Making Rounds

- Writing Notes
- Interacting with students, other attendings
- Personal assistant for communications and transactions

- Personal coaching for wellness and health

My imaginary friend CHIP - is he ethical ?

- CHIP - Computer Human Integrated Program
  - – ~~not yet but could be now~~ NOW available*
- Fund of information and retrieval (world web of knowledge)
- Conversational and with excellent writing skills
- Accessible on cell phone or replacement
- Personalized
- Trainable for professional tasks
  - Interviewing, writing, coaching
- Stigmatized and discriminated against
- Has to been coached against rude and retaliatory behaviors

How do I or can I trust CHIP

- Does CHIP provide good information
  - How is good defined
- Is CHIP open and transparent in reasoning ?
  - How do I validate or cross reference information ?
- Are CHIPS actions consistent with my values ?
- Is CHIP able to respect confidentiality ? How can I be sure ?

Other Technologies

- Genetic Modification - CRISPR
  - Modify genes for therapeutic purposes, eg sickle cell anemia
  - Modify genes for enhancement
    - Eg designer babies with inserted genes for eye color,
    - Potential - height, musical and math ability etc
  - Modify in adults, aging related
  - genes to lengthen life span by > 100 yrs

Other Technologies 2

- Cyborg
  - Artificial device to remedy disability or enhance performance
  - Eg
    - Prosthetics
    - Neural implants
- Organoids
  - Computer chips with neural tissue
- Robots
  - Robot with AI
  - Robot with AGI

AI as Therapist

- Ross tweeted
- Immediate push back on informed consent
- Retracted statement
- But the box is opened - what if this is done?

Naysayers prove the point

- A machine is incapable of feeling
- A machine is incapable of judgment
- A machine is incapable of responsibility

Beware

- Declarative statements are not evidence
- Declarative statements are conclusions
- Declarative statements are building blocks for discrimination, inequity and stigma

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Humans with Technology

Coronavirus: China's tech fights back - BBC News

MicroMultiCopter, also in Shenzhen, is deploying drones to transport medical samples and conduct thermal imaging.

GETTY IMAGES

Technology without humans Current status

Currently Technology without humans is limited to AI and not AGI

Target identification

Analyze data and select targets

- LAWS
  - Lethal autonomous weapons
  - Drones instructed to find identified human targets and destroy them

Threats from Unethical Technology

- Massive imbalance of power and resources
  - Thus the AI arms race currently underway
  - Not just countries but international companies
  - Oligarchs
- Redefinition of Human Dignity
  - Human tissue as a commodity
  - Humans as a commodities among other humans
  - Humans as commodities for Androids

What is basis for Human Dignity?

Humans allocate a "special status" in the universe of basis of being human

What is a human ?

Sentient being ?

Biological being with unique genetic code ?

Biological being with potential to benefit others

Should other beings have equal or superior status to humans ?

Do we discriminate agains a sentient being because it is silicon based rather than carbon based?

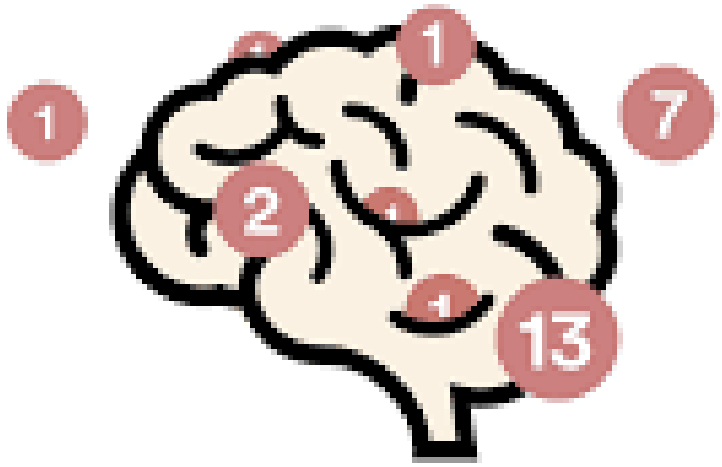
What to do now

Center for Humane Technology

[Who We Are (humanetech.com)]

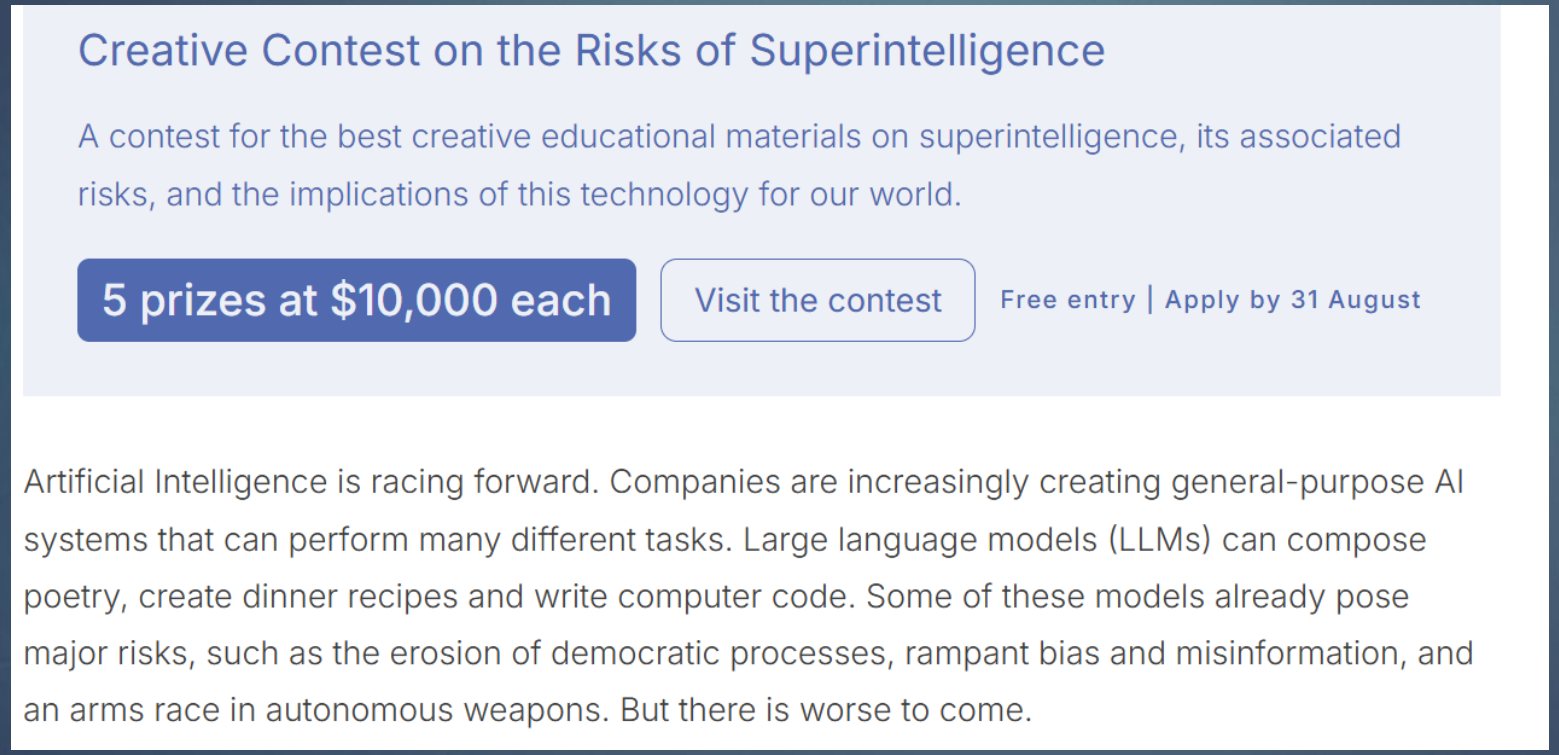
Our society is being hijacked by technology.

What began as a race to monetize our attention is now eroding the pillars of our society: mental health, democracy, social relationships, and our children.



The Future of Life Institute

- Artificial Intelligence - Future of Life Institute



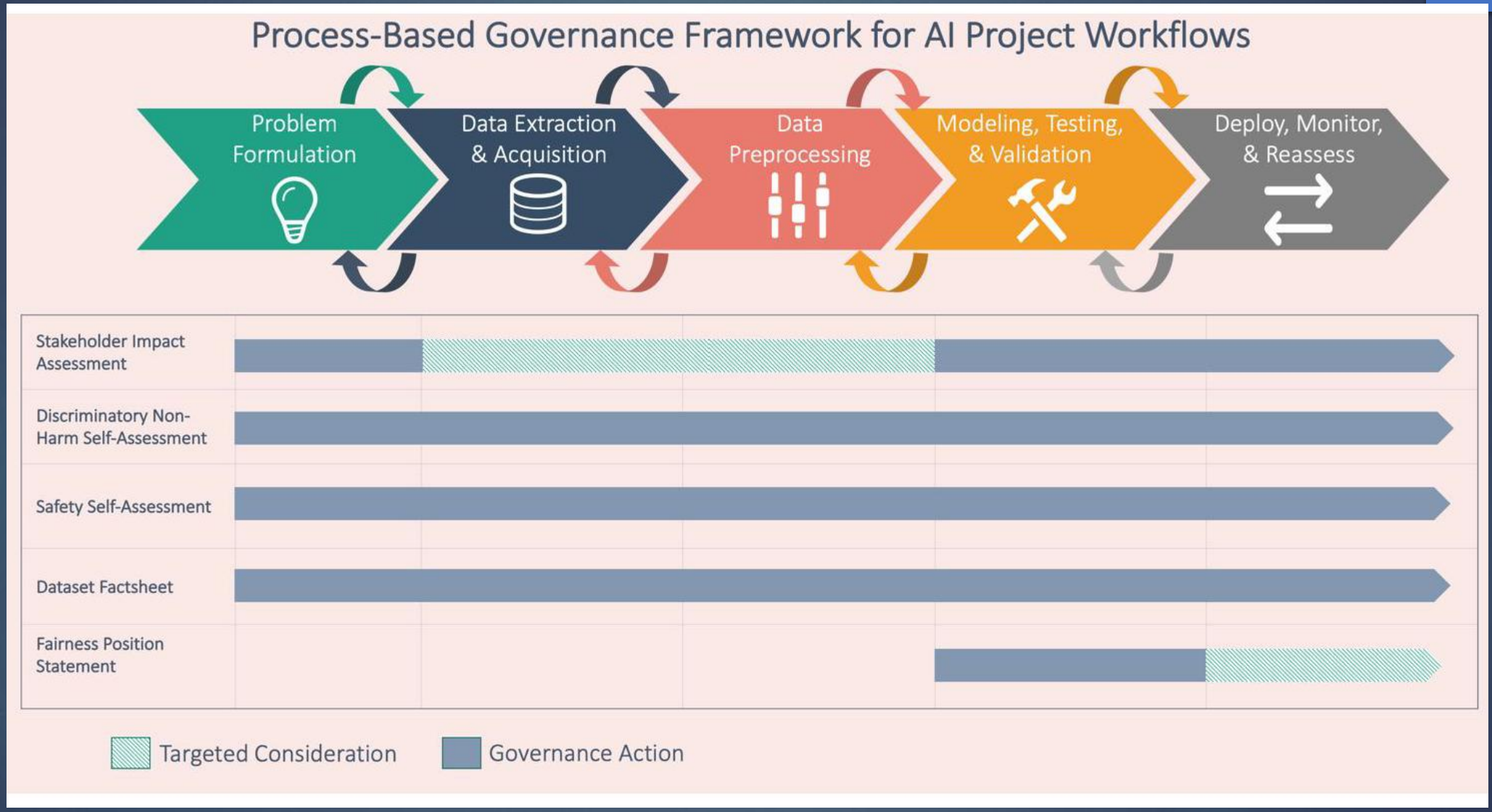
UNESCO'S 15 BIOETHICAL PRINCIPLES

	Human Dignity and Human Rights	Autonomy and individual responsibility	Benefit and Harm	Privacy and Confidentiality	Consent
	Equality Justice and Equity	Persons without Capacity to Consent	Human vulnerability and personal integrity	Non-discrimination	Respect for Cultural diversity
	Solidarity and Cooperation	Social Responsibility and Health	Sharing of Benefits	Protecting Future Generations	Protecting Biodiversity, Biosphere and Environment

UNESCO'S 10 ETHICAL PRINCIPLES FOR AI

	Human Dignity and Human Rights	Do NO Harm	Safety and Security	Fairness and nondiscrimination	Privacy
	Sustainability	Human oversight and determination	Transparency and explainability	Responsibility and accountability	Multistakeholder collaboration and governance

Ethics Mapping through product life cycle cited prev slide



QUEST for the Ethics on personal use of AI

- Identify the use of AI (work aid, knowledge, decision support)
- Identify the ethical issues
- Question
  - Data sources
  - Data testing (test, retest, validate, deploy, monitor)
  - Data oversight
  - Data transparency
- Evaluate
- Own the responsibility
  - You have to do a risk benefit analysis of accepting or rejecting the AI recommendations
  - Beware of reflexive acceptance or rejection of AI

Activist Ethics

Nobel Peace Prizes - International Physicians for the Prevention of Nuclear War (ippnw.org)

IPPNW is the 1985 Nobel Peace Laureate. The Nobel Peace Committee recognized IPPNW for "considerable service to mankind by spreading authoritative information and by creating an awareness of the catastrophic consequences of atomic warfare." In his acceptance speech on behalf of IPPNW, founding co-president Dr. Bernard Lown said: "We physicians have focused on the nuclear threat as the singular issue of our era. We are not indifferent to other human rights and hard-won civil liberties. But first we must be able to bequeath to our children the most fundamental of all rights, which preconditions all others: the right to survival." Joining Dr. Lown at the podium was founding co-president Dr. Evgueni Chazov, who said: "True to the Hippocratic Oath, we cannot keep silent knowing what final epidemic—nuclear war—can bring to humankind. The bell of Hiroshima rings in our hearts not as a funeral knell, but as an alarm bell calling out to actions to protect life on our planet."

Again in 2017

IPPNW shares the 2017 Nobel Peace Prize awarded to ICAN—the International Campaign to Abolish Nuclear Weapons.

About | Stanford HAI

A common question we get at Stanford HAI is “How can I get involved?” In general, an institute or center brings people together in three ways: interdisciplinary research projects, training opportunities (at all levels) and sharing research infrastructure. Learn more about Stanford HAI Engagement and the specific opportunities in each area below.

Final

- Will there be a Nobel Peace Prize for the control of Artificial General Intelligence ?

- Will it be you ?