WHY CAN'T AI DO MY DISHES ALREADY?

Kellyn Gorman

Advocate and Engineer, Redgate

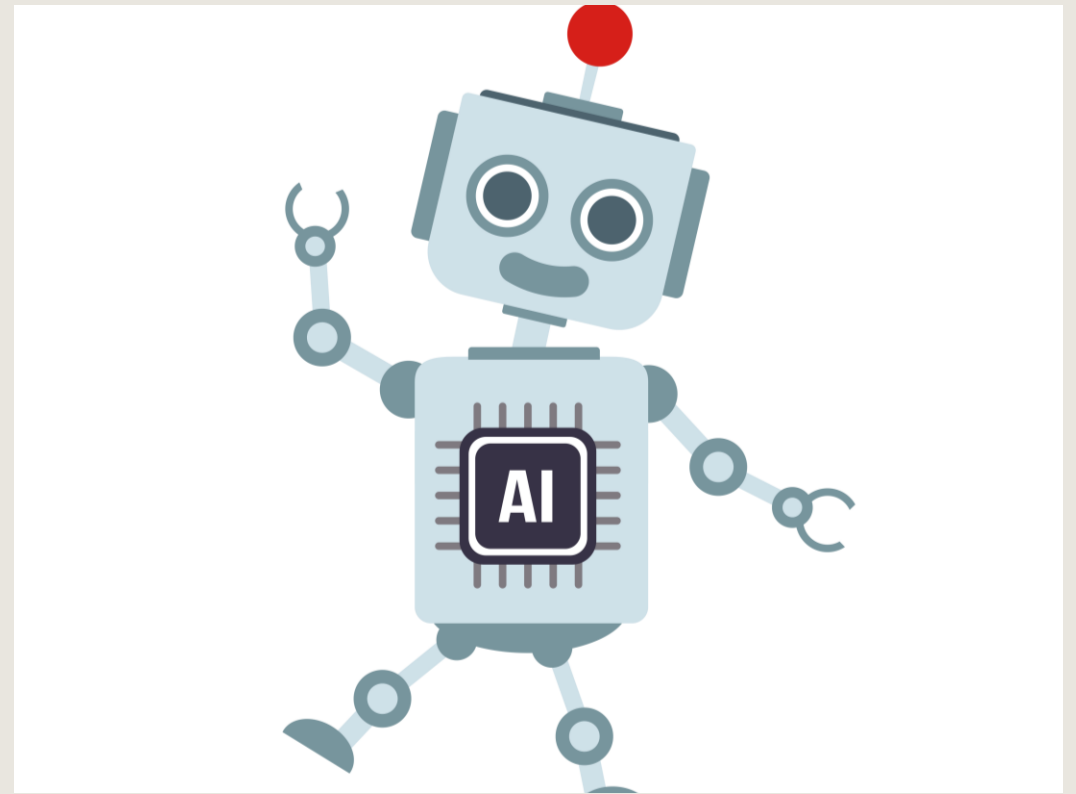SQL SATURDAY

Oregon & SW Washington

ABOUT ME

Kellyn Gorman

NEW Advocate and Engineer at Redgate

Advisor for Data and AI at Silk

In relational systems for quarter of a century

ARTIFICIAL INTELLIGENCE

"I want AI to do my laundry and dishes so that I can do art and writing, not for AI to do my art and writing so that I can do my laundry and dishes."

Author and videogame enthusiast **Joanna Maciejewska** nails it (although bathroom cleaning goes ahead of laundry)

https://x.com/AuthorJMac/status/1773679197631701238?lang=en
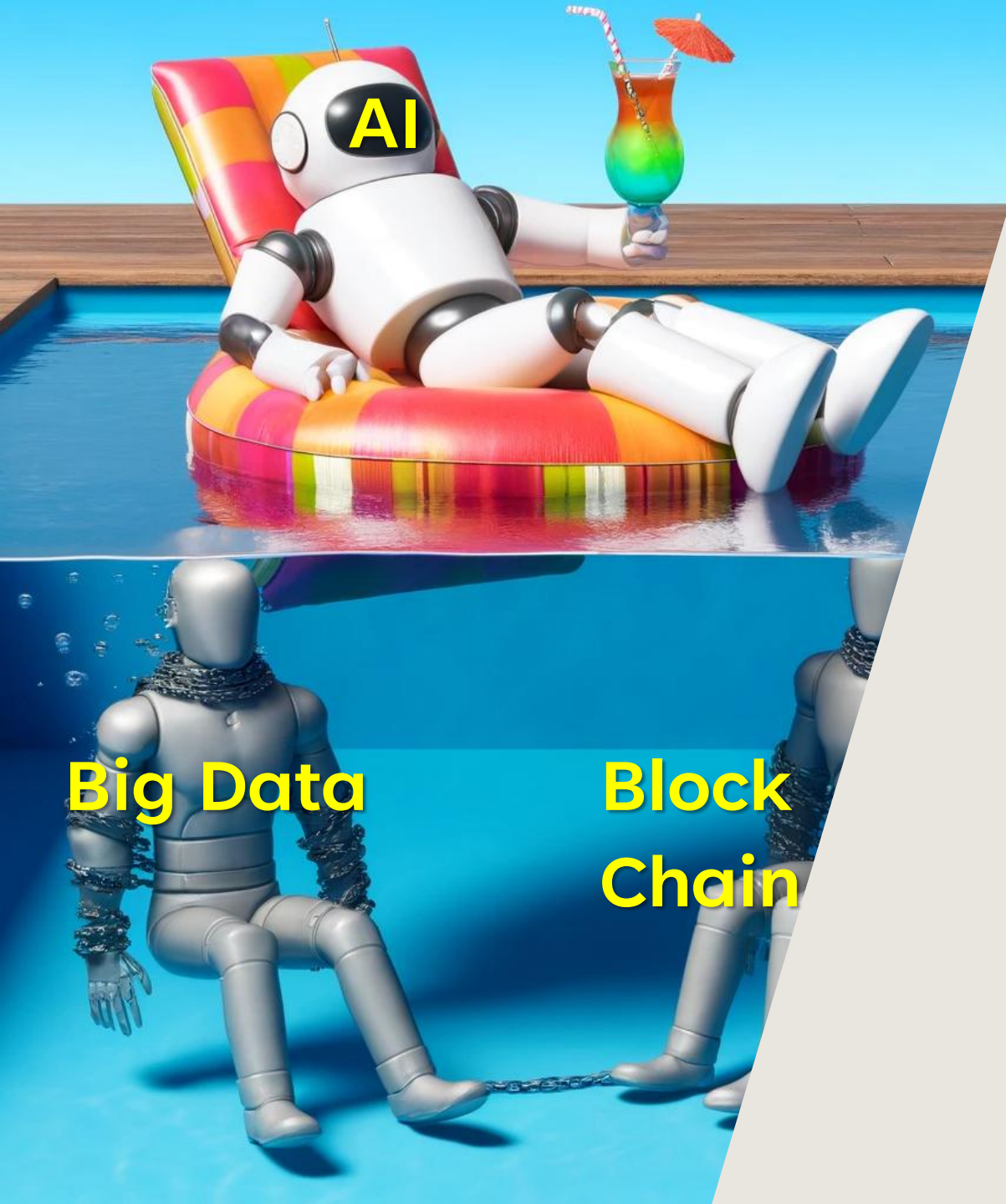
WHAT IS AI?

Is it a tool to optimize the workforce?

Is it a creative powerhouse to generate art and images?

Is it a digital assistant, fulfilling requests for meetings, answering questions, etc.?

It is here to replace us all?

AI IS THE CHOSEN ONE

Remember Big data?

Remember Block chain?

AI is the newest and the hottest thing in technology!

AI: THE SOLUTION FOR EVERYTHING?

- **Automation and Efficiency**: AI can automate repetitive, time-consuming tasks.

- **Decision Making**: AI is data-driven decision making, processing vast amounts of data quickly.

- **Customer Experience**: It enables personalized customer interactions, including chatbots that create tailored experiences to boost customer satisfaction.

- **Scalability**: AI systems can scale operations without proportional increase in resources.

- **Cost Reduction**: AI can optimize resources, predict trends and risk, reducing operational cost, which makes it attractive to organizations.
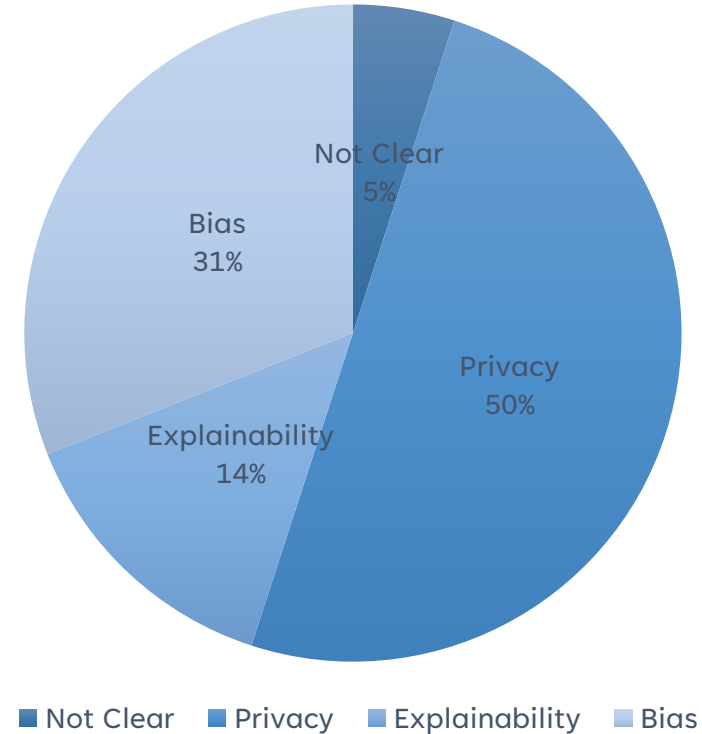
ITS NOT ALWAYS THE RIGHT ANSWER FOR EVERYTHING

And is it being used for the RIGHT THING?

ORGANIZATION CONCERNS AROUND AI

- Reputational Issues
  - Intrusion in Privacy
  - Failures in Consent
  - Algorithmic Bias
  - Explainability

Concerns with AI

Pie chart: Not Clear 5%, Privacy 50%, Explainability 14%, Bias 31%

Legend: Not Clear, Privacy, Explainability, Bias

IS AI REALLY ARTIFICIAL INTELLIGENCE?

- Many Computer Scientists do NOT like the term A.I.
- Currently A.I is a tool, not a creature
  - It is a form of informative collaboration.
  - The work is done by human minds
  - Mashed up and presented in a very usable way.

- A percentage foresee AI, as it is now, being completely unusable in upcoming years if it does not quickly evolve.
- Average estimate is 10% chance that A.I. will someday destroy humanity.
- Many in the community would like a pause, but for what?

"The easiest way to mismanage a technology is to misunderstand it."
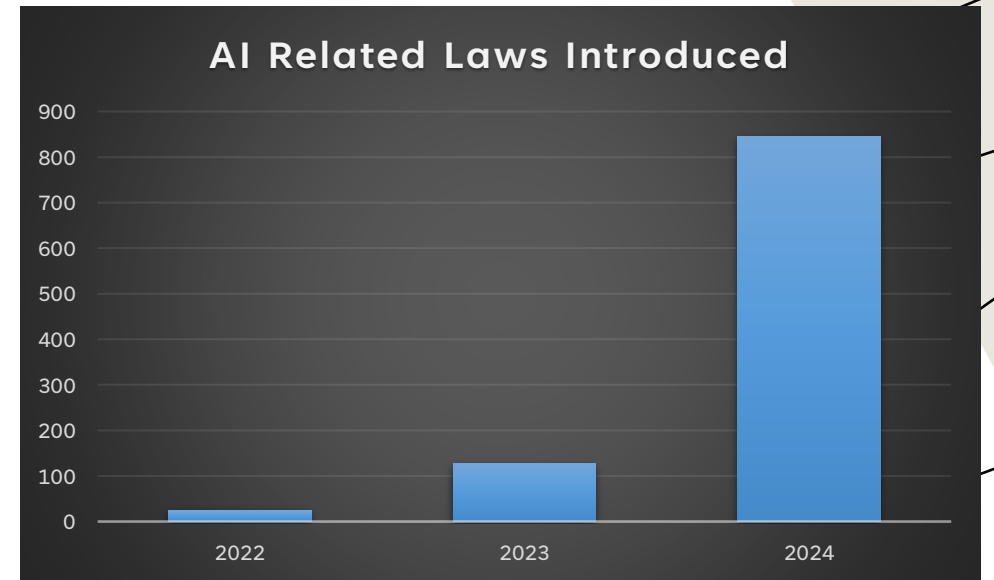~ **Jaron Lanier**

A LITTLE DELAY IMPROVES INNOVATION
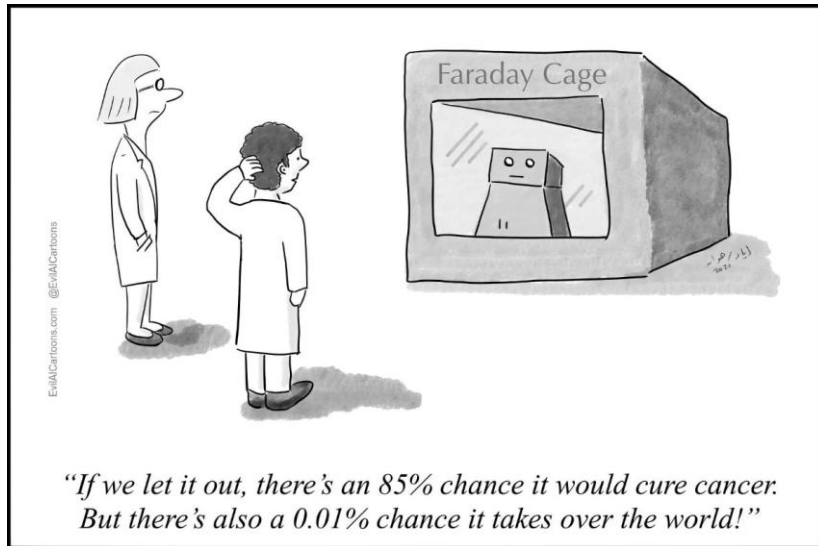
- EU Artificial Intelligence Act (AIA)

- National Artificial Intelligence Initiative Act of 2020 (US, H.R. 6216)

- AI in Government Act(US, H.R. 2575)

- Advancing American AI Act (US, S. 1353)

14 states passed legislation between 2016-2022

Over 3000% increase in AI related laws between 2022 and 2024

AI AND ETHICS

"If we let it out, there's an 85% chance it would cure cancer. But there's also a 0.01% chance it takes over the world!"

Bias Propagation

Plagiarism/Copyright

Misuse of AI technology

Unfair AI Playing Field/Inclusion

Misinformation/Overall AI poisoning

Transparency and Accountability

Privacy/Risk

BUT....SCIENTIFIC PROGRESS IS UNPREDICTABLE!
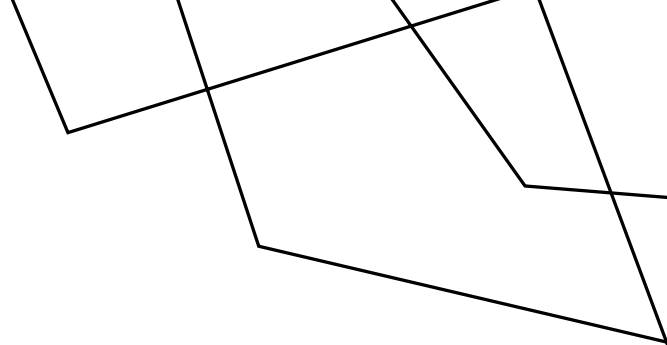

Unpredictable or Unaccountable?

Is it greed that's really driving it?

Impractical is interesting, dishes are tedious.

[AI TOOLS] DO A POOR JOB OF MUCH OF WHAT PEOPLE TRY TO DO WITH THEM, THEY CAN'T DO THE THINGS THEIR CREATORS CLAIM THEY ONE DAY MIGHT, AND MANY OF THE THINGS THEY ARE WELL SUITED TO DO MAY NOT BE ALTOGETHER THAT BENEFICIAL.
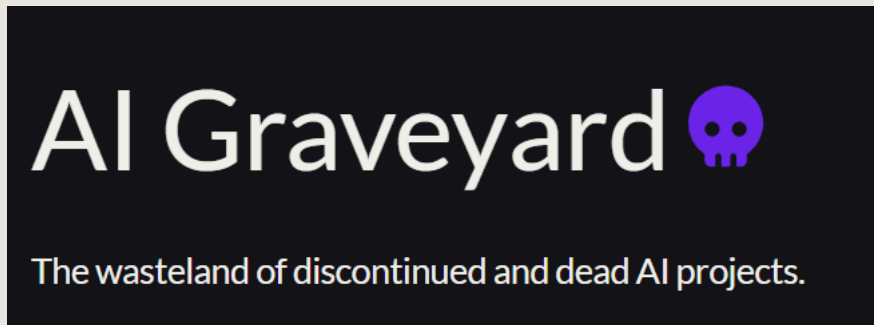
~Molly White, Researcher and Software Developer for Citation Needed

THE AI GRAVEYARD

Deprecation of:

- AI Chatbots

- Natural Language AI

- Selfie creators

- Pretend GF/BF/Friends

- AI PDAs

https://dang.ai/ai-graveyard

SO, WHAT DO I THINK IS THE WORST AND BEST OF AI?

7-TIERS OF NON-LEAG___
FOOTBALL TEAMS ___ ___ING
COACHED BY ___ ___THMIAN
LEAGUE ___ ___ R DIVISION,
WIN___ ___ND FINCHLEY FC HAVE
___ ___TED AN AI COACH FOR
___ACTICAL ADVICE, USING
AMAZON ECHO.

Coaching Football = Odd Use

PROTECTING ANIMALS

Google Cloud/PostgreSQL/Cloud AutoML and AI Services

Lion, Tigers and (Polar) Bears...

- Low-cost acoustic loggers
  - Visual representation of sound(spectrogram) with computer vision
  - Identify species calls
  - Humans (including potential poachers)
- Motion-activated cameras
  - Think like "Facial recognition software"

Lion population was down to 12, now over 500!

AI Safety Summit 2023: the new tech transforming conservation | The Zoological Society of London (zsl.org)
https://cloud.google.com/customers/zsl

CAPABILITIES

- Able to identify species in a fraction of the time.

- Trains new LLMs via archival data.

- Real-time analysis monitoring without human interaction, protecting both humans and animals involved.

- Isolates and delays real-time data to protect from poachers

- Deployed now to over 50 countries

- Eleven main species expanded to over 800!

SIMILAR PROGRAMS

- [Wildtrack](#)
  - AI, data analysis and tracking technology.
  - Footprint Identification Technology (FIT)

- [Ambio](#)
  - Tracks boats in Zambia that may be tracking endangered animals and alerts rangers
  - Gathers water level and other IoT information for advanced analytics.

- [AI from National Wildlife Federation](#)
  - Images uploaded to site, can identify lions, whales, seals and even trout!

Saving Animals = Great Use

Marked Individual MD-132

DOWNLOADS AN IMAGE FROM THISPERSONDOESNOTEXIST.COM EVERY 5 SECONDS WITH A VOTING SYSTEM BUILT INTO AI TO JUDGE IF THEY ARE HOT OR NOT.

Judging Imaginary People= Creepy Use
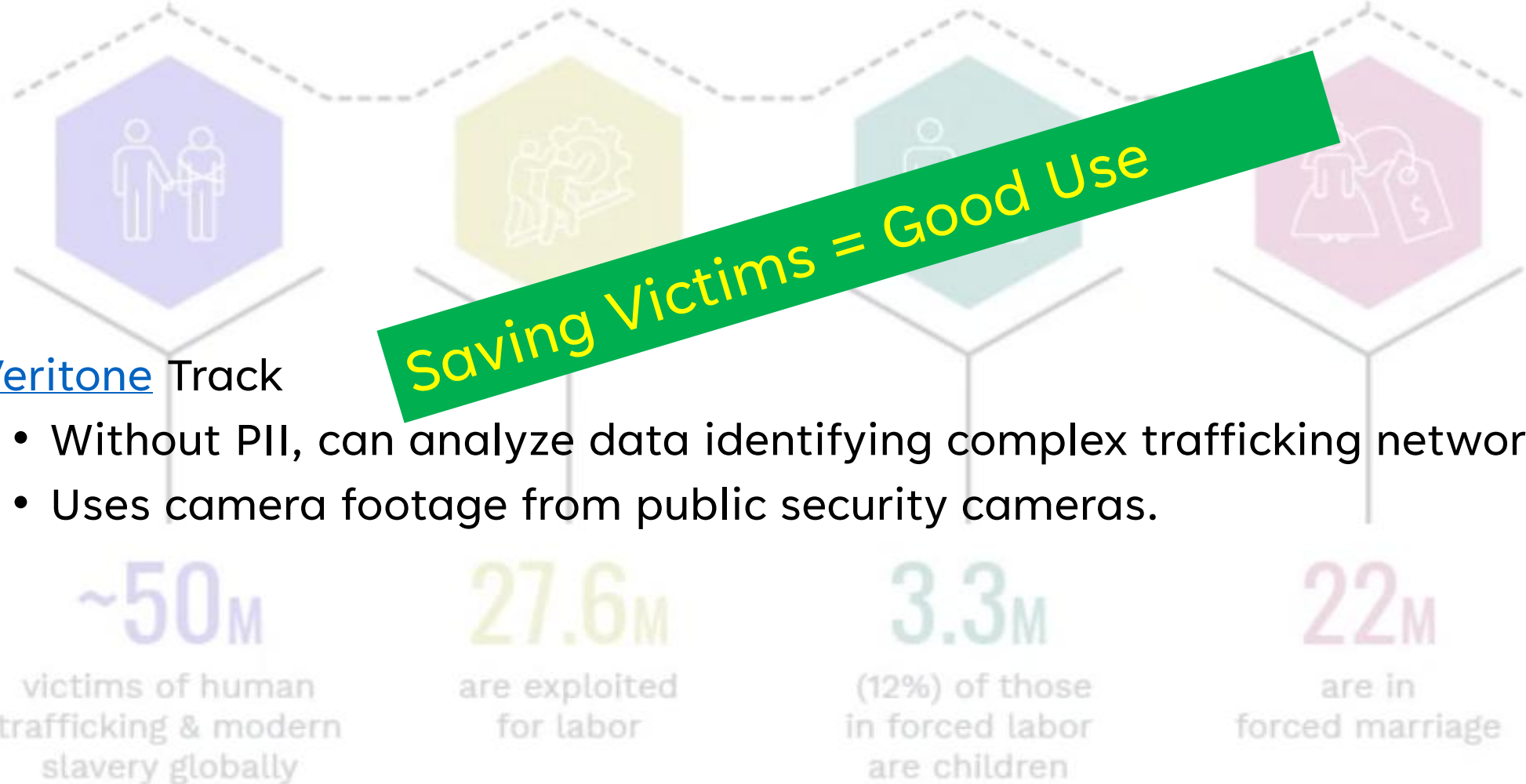
TACKLING HUMAN TRAFFICKING

Microsoft Azure, Splunk with Graphistry and AI

Artemis collects data from public records and online resources, identifying those who may be most likely involved in human trafficking.

- Also tracks data from the dark web.

- Able to ID individuals being trafficked.

- Restricted and secure system

- Includes images that may be used soon with facial recognition software.

Global Emancipation Network Tackles Human Trafficking Crisis with Splunk

PROTECTING THOSE WHO CAN'T PROTECT THEMSELVES

Saving Victims = Good Use

- [Veritone](#) Track
  - Without PII, can analyze data identifying complex trafficking networks.
  - Uses camera footage from public security cameras.

~50M
victims of human
trafficking & modern
slavery globally

27.6M
are exploited
for labor

3.3M
(12%) of those
in forced labor
are children

22M
are in
forced marriage

AI TRAINED NEUR~~~ NETWORK~~~ THE ART OF ~~~UCTION FEEDS PICK-UP LINES VIA EARBUDS.

Creating Pickup Lines = Creepier Use

AI HEALTHCARE AND SURGICAL ADVANCES

Improving Medical Care = Good Use

- 3D Anatomical overlays ~~~~~~~ted reality

- AI-formatted ~~~~~~~ robotic surgery guidance

- Medi~~~~~~~ion via massive medical databases and ~~~~~tion.

- ~~~~eoperative risk assessment on candidates for organ transplant for better outcomes

- Detection of cancer

- Efficiency of care centers and hospitals

https://pmc.ncbi.nlm.nih.gov/articles/PMC11293880/

Fortune Cookie Predictions = Poor Use

MIT-TRAINED ~~~~~~~ICIST HAS BUILT ~~~~~~M THAT ~~~~~ES A PREDICTION TO ~~~~ YOUR FUTURE BASED OFF A TRAINED NEURAL NETWORK ON MESSAGES FOUND IN 1000'S OF FORTUNE COOKIES.

https://theskepticalguy.com/2023/07/05/another-use-for-ai-and-chatgpt-writing-better-fortunes-for-fortune-cookies/

DRONES AND AI PREVENTING FOREST FIRES

Already in use with human-powered pilots, moving to 30 AI-powered drone planes.

- Equipped with cameras and swarm engineering

- 31 ft and have water-carrying capacity

- Smaller test drones do recognizance and larger one puts out the beginning fire before it spreads.

- No human intervention is required, protecting pilots and ground firefighters, etc. if the fires were to spread.

Wildfires: Researchers hope drone swarms will prevent infernos (bbc.com)

FIGHTING FIRES IS A HUGE USE CASE FOR AI AND DRONES

Advanced AI Solutions

- Early detection drones

- Capable of putting out small blazes

NASA

- AI controlled, no human control requi...

- Swarms of drones for early det...

- Able to put out small fires and bring in larger reinforcements.

Stopping Fires = Great Use

GOOGLE'S AUTOML VISION HAS BEEN TRAINED TO FIND WALDO- LITERALLY. ROBOTIC ARM IS USED TO POINT AT WALDO ONCE THE [A] LOCATES IT WITH USE OF A CAMERA TAKING PICS FROM THE FAMOUS BOOKS.

Finding Waldo = Capital Crime

https://www.redpepper.land/blog/theres-waldo-a-robot-that-finds-waldo

CLIMATE CHANGE

- Using technology to empower governments and industries to adapt.

- Comprehending risks and opportunities as climate changes incidents increase.

- Resilience against future impacts and how to better help populations.

WORLD
ECONOMIC
FORUM

ClimateAi

Tech for Climate Adaptation is leveraging advanced technology to combat the impacts of climate change (weforum.org)

HOW AI IS HELPING WITH CLIMATE CHANGE

Knows where and
how fast...

Using satellite
images, AI can
map deforestation

Recycle more
effectively.

Cleans the Oceans

Addressing Climate Change = Great Use

WHEN AI CREATES SOMETHING FOR THE BETTERMENT OF THE WORLD

It may not be as entertaining, but it is better society.

AI IS NOT JUST ABOUT CHATBOTS ON RETAIL SITES

- **AI really is being used for the betterment of the world, too.**

IoT data for real-time data

ML with different learning mechanisms for deeper data analysis

Computer vision to add visual data

Robotics to physically perform tasks

While policies are put in place to ensure more guard rails.

HOW TO BECOME AN ACCIDENTAL AI SPECIALIST

Understand the unique challenges that AI presents.

Work with AI technology with free products and open source.

Be willing to jump in on projects that others avoid.

SKILLS BENEFICIAL TO AI

- Knowledge of infrastructure, open source and cloud services.

- Coding skills in Python, Java, R, C++ and JavaScript

- Data modeling and platform engineering

- Data analysis

- Machine Learning models

- Cloud services around AI and ML

- DevOps

- Adaptability and Continuous Learning

CUSP OF AI IN THE NEXT YEAR

Streamline of AI initiatives.

AI services will become the norm, allowing for plug-n-play.
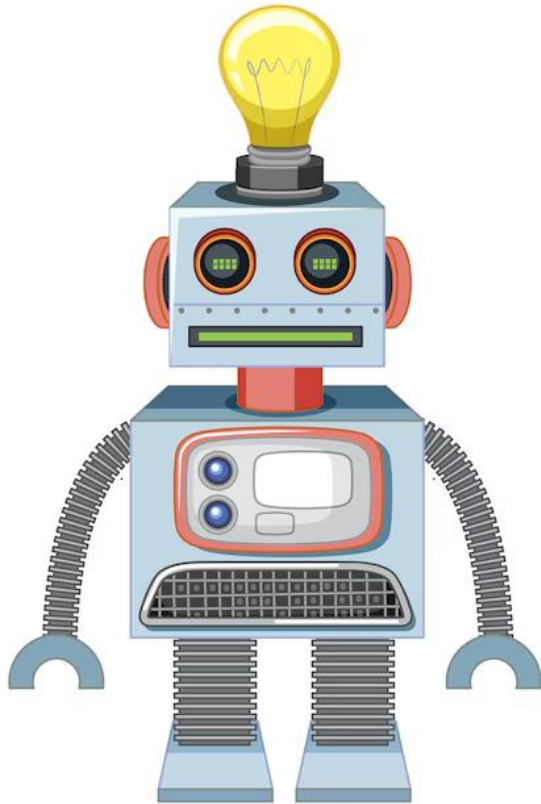
Data will be reeled in and more data lineage/governance.

Significant data breaches should be expected before this happens.

LIMITATIONS THAT WE WILL CONTINUE TO OBSERVE

- **True AI consciousness**

- **Majority will desire an AI "Easy Button"**

- **Many suffer from the "[Paradox of Choice]"**

- **Inability to identify the goal or comprehend what our definition of Artificial Intelligence is.**

SO, IN SUMMARY

LOTS OF BAD AI OUT THERE

LOTS OF CONFUSION ABOUT WHAT AI IS

MORE AI WINS, BUT MAY NOT BE AS FLASHY AS THE TRASHY
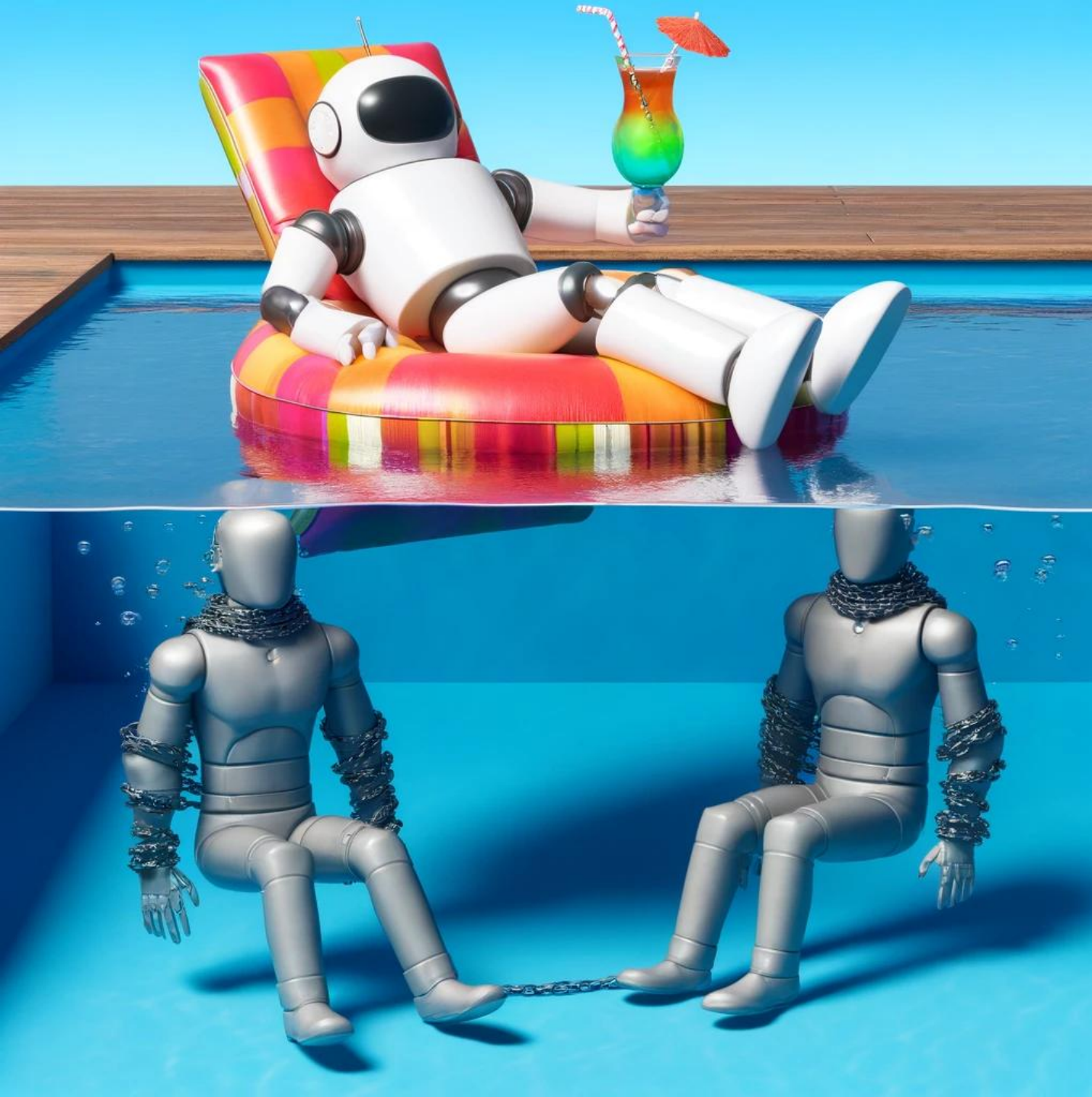
DON'T FEAR BECOMING PART OF AI PROJECTS

AI STILL ISN'T GOING TO WASH MY DISHES ANYTIME SOON...

REFERENCES

- https://www.sbs.ox.ac.uk/oxford-answers/what-do-when-ai-behaves-badly
- https://www.europarl.europa.eu/RegData/etudes/ATAG/2024/757605/EPRS_ATA(2024)757605_EN.pdf
- https://www.linkedin.com/pulse/good-ai-bad-design-when-less-more-michael-todasco-8uj8c/
- https://www.newyorker.com/science/annals-of-artificial-intelligence/there-is-no-ai
- https://www.whitecase.com/insight-our-thinking/ai-watch-global-regulatory-tracker-united-states#

THANK YOU

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