



2024 NARR RAILROAD CONFERENCE

"AI in the Rail Industry"



THE NATIONAL ASSOCIATION OF RAILROAD REFEREES

ABOUT NARR

The aims and purposes of the National Association of Railroad Referees are (1) to promote mutual exchange of ideas and information among its members concerning items of mutual interest; (2) to communicate with the National Mediation Board and other appropriate agencies, groups and organizations to offer aid and assistance as is deemed appropriate for the promotion of railroad arbitration; (3) to be available to the National Mediation Board and other appropriate agencies, groups and organizations to offer comments upon various suggestions and requests as they may solicit same; (4) to obtain and distribute to the membership information and documentation of interest to the professional pursuits of the members; (5) to engage in educational pursuits as may be appropriate; and (6) to take other action to promote the interests of railroad arbitration as deemed appropriate by the Association to achieve the aims and purposes of the Association.

DISCLAIMER

The views expressed by panelists in this webcast are not necessarily those of the National Association of Railroad Referees. NARR assumes no responsibility for the content and materials presented by the speakers.

SPEAKERS

MODERATOR: REFEREE EARLENE BAGGETT-HAYES



ARBITRATOR RICHARD BALES



ARBITRATOR ELAINE FROST

Artificial Intelligence (A.I.) In the Railway Industry

Earlene Baggett-Hayes, Arbitrator



**Allen
Iverson**



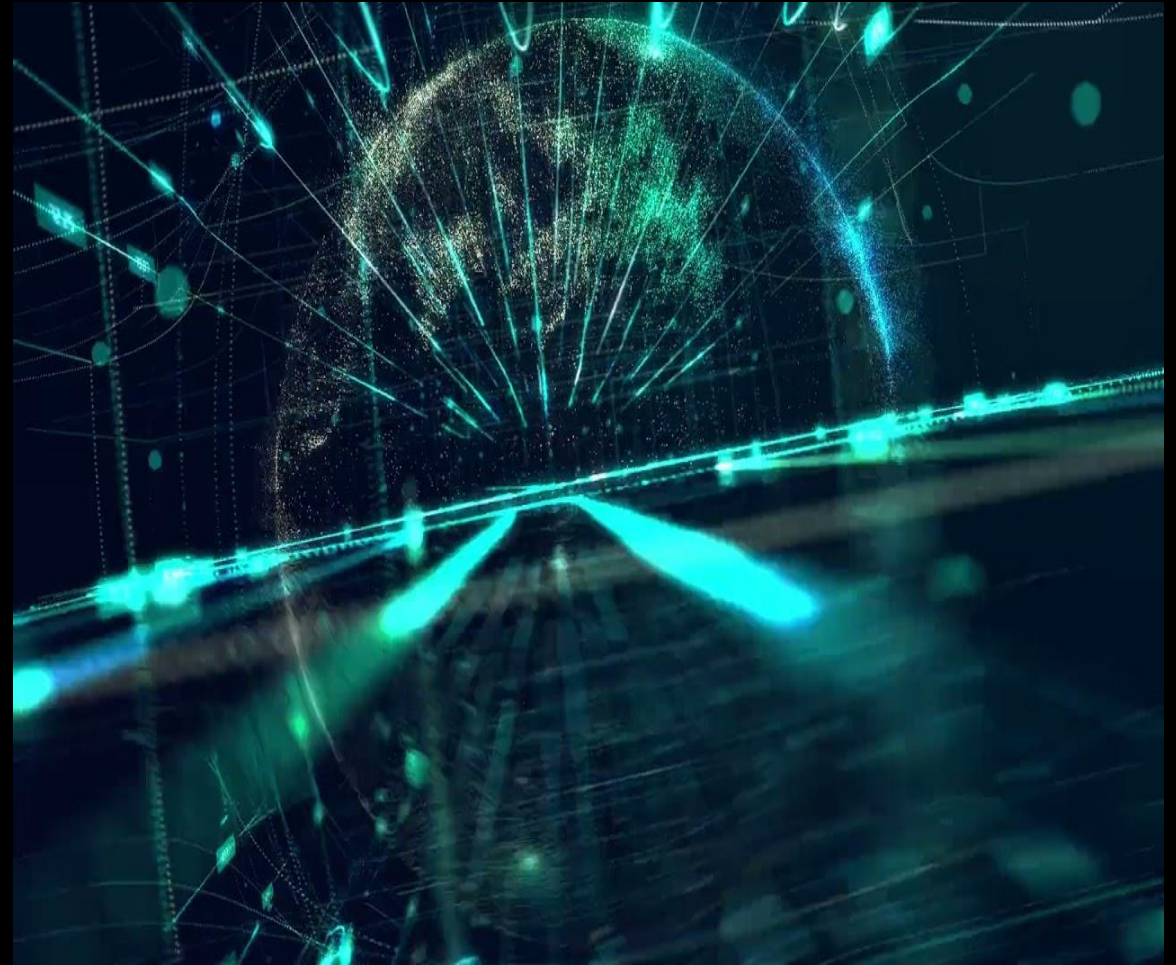
(A.I.)

Quickness



Allen Iverson

Speed



Artificial Intelligence

CHANGE



Allen Iverson



Artificial Intelligence

RULES



Allen Iverson

REGULATIONS



Artificial Intelligence

The Answer.



Allen Iverson

The Answer?



Artificial Intelligence



Generative AI for Arbitration in the Railroad Industry

Arbitrator Elaine Frost

2024 Annual Meeting of the NARR



Basic Concepts of Generative AI

Generative AI is a category of artificial intelligence that mimics human creativity. AI gives human-like responses to questions (called prompts) from human users. AI can write essays, compose music, design graphics and generate realistic images. And it provides its answers with amazing speed.

AI basically consists of a battery of super computers that have been trained to independently process data and to independently reach decisions based on training.

ChatGPT is one platform for using generative AI. It is provided by OpenAI, which is one of the companies that produces AI-capable products. AI constantly improves. Thus, when ChatGPT-3 was fed the multiple-choice Uniform Bar Examination it flunked the Exam but earned a passing grade in evidence and torts. When the same Exam was fed to the next version, ChatGPT-4, it passed all sections of the Exam, scoring close to the 90th percentile of human test takers.

Limitations of AI

With all its amazing capabilities AI is not a substitute for human judgment. Thus, Chat GPT is not capable of the reasoned decision-making that arbitrators apply to rule on a dispute. Instead, AI's response to prompts is automated decision-making based on correlations between its assimilated data and the user's question. There is no path that AI or humans can track through its automated decision-making. Therefore, it is said, AI's reasoning is in a "Black Box."



ChatGPT Gets Smarter



The Sex Harassment Transcript (Handout) was fed to ChatGPT-4 in January, 2024, along with these instructions:

- Summarize this Transcript.
- As the arbitrator, what would you decide?
- Provide a draft of the arbitrator's Award.
- What other information would you prefer to have to reach a decision?

In January 2024 ChatGPT-4 adequately summarized the transcript, but flailed around, saying:

- Based on this transcript alone, it's challenging to make a definitive decision....Both parties provide conflicting narratives with no immediate evidence supporting either side.

By contrast, in June, 2024, with the same transcript and questions, GPT4o clearly provided the arbitrator's decision that Susan's account should be credited over Sam's account. Thus, ChatGPT4o said:

- There are conflicting accounts between Susan and Sam. Susan's detailed descriptions of escalating behavior and the emotional impact lend credibility to her account. Sam's denials and justification of his behavior appear less credible, especially given Susan's eventual report to HR.

AI Surrounds Us

- Many arbitrators believe AI is irrelevant to their work because they will not use it: let the younger people who will follow us as arbitrators consider AI. Certainly, they have a healthy respect for confidentiality. But their view seems to me to miss the point that AI is already part of our lives. So, whenever we use an on-line chat or call for customer service or consider national finances, AI is here.



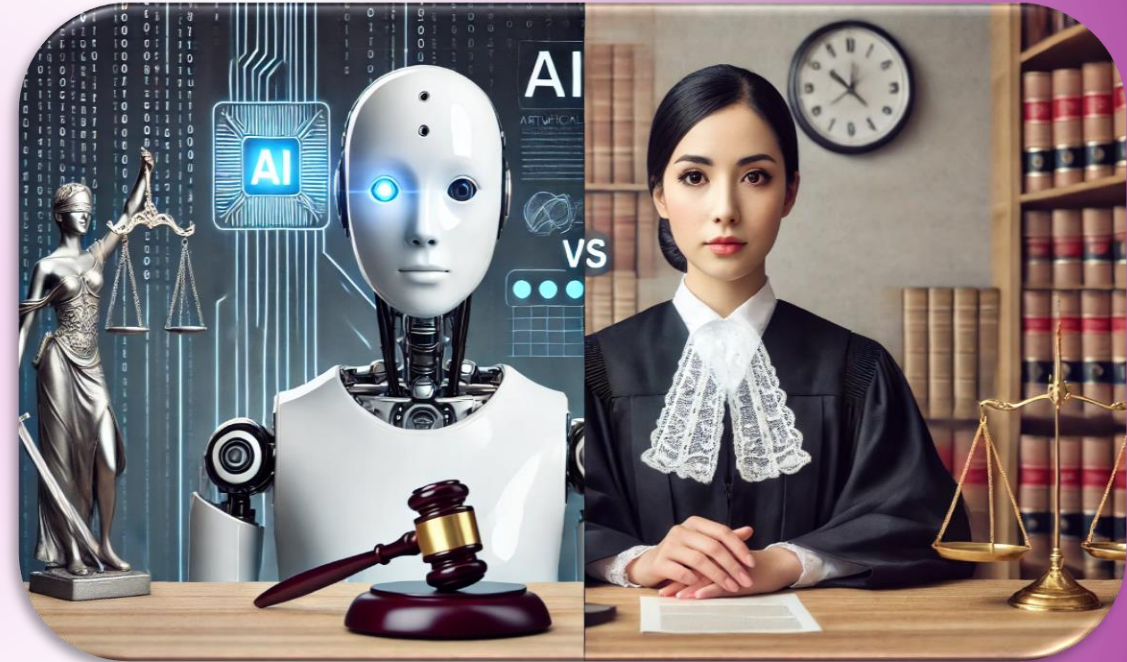
Confidentiality v. ChatGPT

So why don't arbitrators use AI on real arbitration cases, and have ChatGPT 4o analyze their transcripts, exhibits, briefs, and provide a draft award which an arbitrator can review before issuing the final award? The reason, of course, is Confidentiality.

Confidentiality Issues:

- Confidentiality is lost when documents are submitted to ChatGPT. Content may reveal party identities despite generic formulations. Submitted documents become part of ChatGPT's data and cannot be located or retrieved

Theoretically, we can anticipate a future when -- at a minimal cost Railroad referees can have unlimited use of AI without ever causing a breach in confidentiality. But don't hold your breath.





ChatGPT Decides a Hypothetical Railroad Arbitration

- There is a 2-page claim file excerpt (Handout)for the hypothetical case used for the NMB training of September 2022. The excerpt concerns a signalman who placed his Hy-Rail equipment on main track under Form B authority, with the Hy-Rail Limits Compliance system (HLCS) set to “N/A.” The Carrier issued a level 2 violation of Rule 6.5 and a three-year review for Claimant’s failure to set the thumbwheel to “M1.” This discipline was grieved.
- The excerpt of the claim file was fed to ChatGPT4o in July, 2024. It upheld the grievance and gave its reasoning covering four areas:

1. Conflicting Instructions:

• Benn and other signalmen were instructed in a certified class by a carrier official to set the HLCS thumbwheel to the "N/A" position when using Form B authority. This instruction directly conflicts with the newer decal on the HLCS equipment that stated the thumbwheel should be set to "M1."

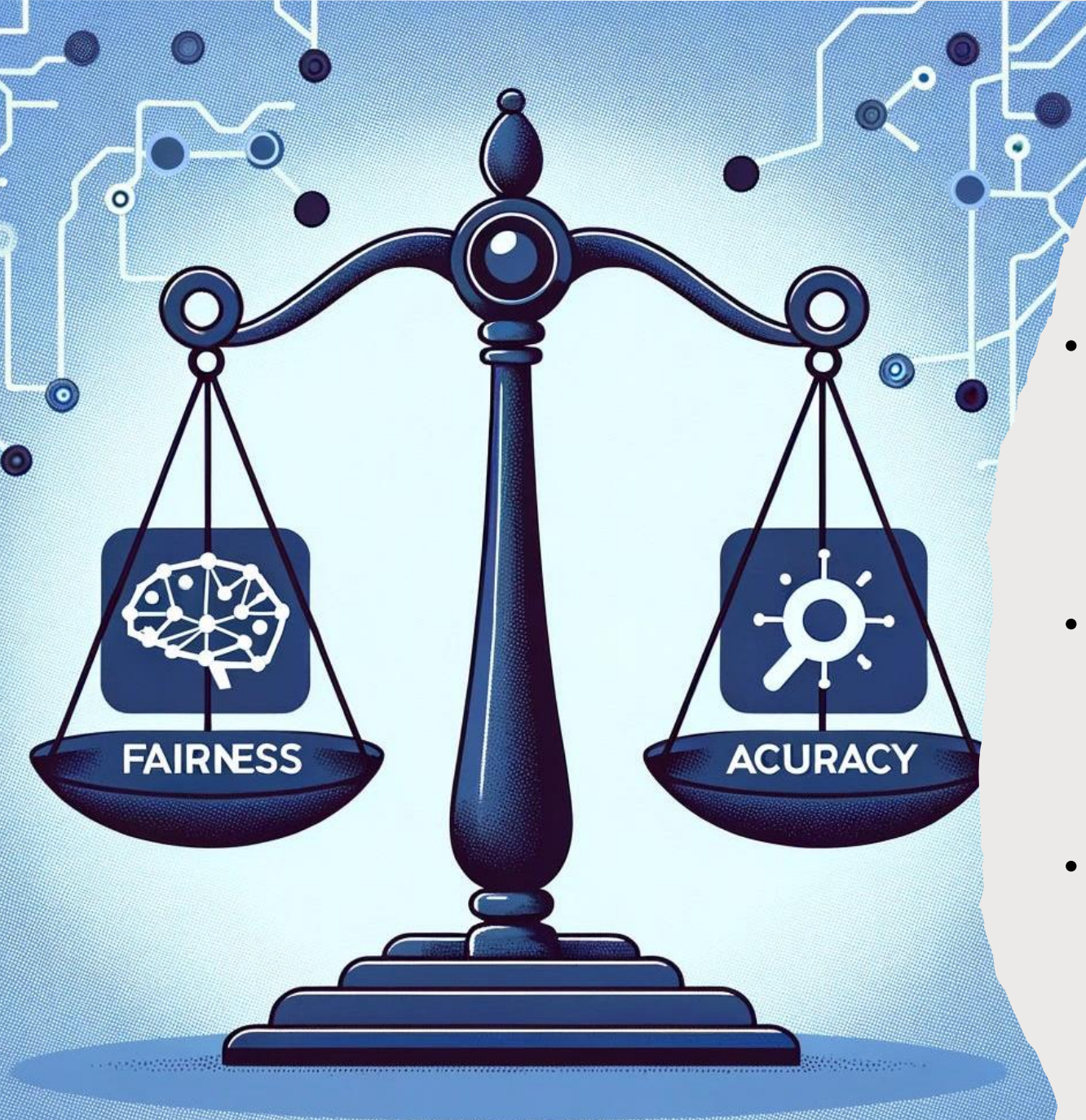
2. Mitigating Circumstances: • Given the conflicting instructions and decals, it is reasonable that Benn set the thumbwheel to "N/A" based on his understanding and previous training. The confusion was not due to negligence on Benn's part but rather due to inconsistent guidance provided by the Carrier.

3. Lack of Substantial Evidence: • The Carrier has not provided substantial evidence that Benn knowingly violated Rule 6.5. Instead, the evidence suggests that Benn was following the instructions he believed to be correct based on his training and the equipment's decal. • Rule 54(G) requires that discipline be set aside if it is found to be unjust. Given the conflicting instructions and Benn's reasonable belief that he was acting correctly, the discipline imposed is unjust.

4. Due Process: • The Carrier's role as prosecutor, judge, and jury requires it to ensure due process and fair investigation. In this case, the Carrier did not sufficiently address the conflicting instructions, or the reasonableness of Benn's actions given these instructions. • The discipline imposed is not only harsh and excessive but also fails to meet the standards of fairness and impartiality required under Rule 54.



Hallucination and Bias in AI

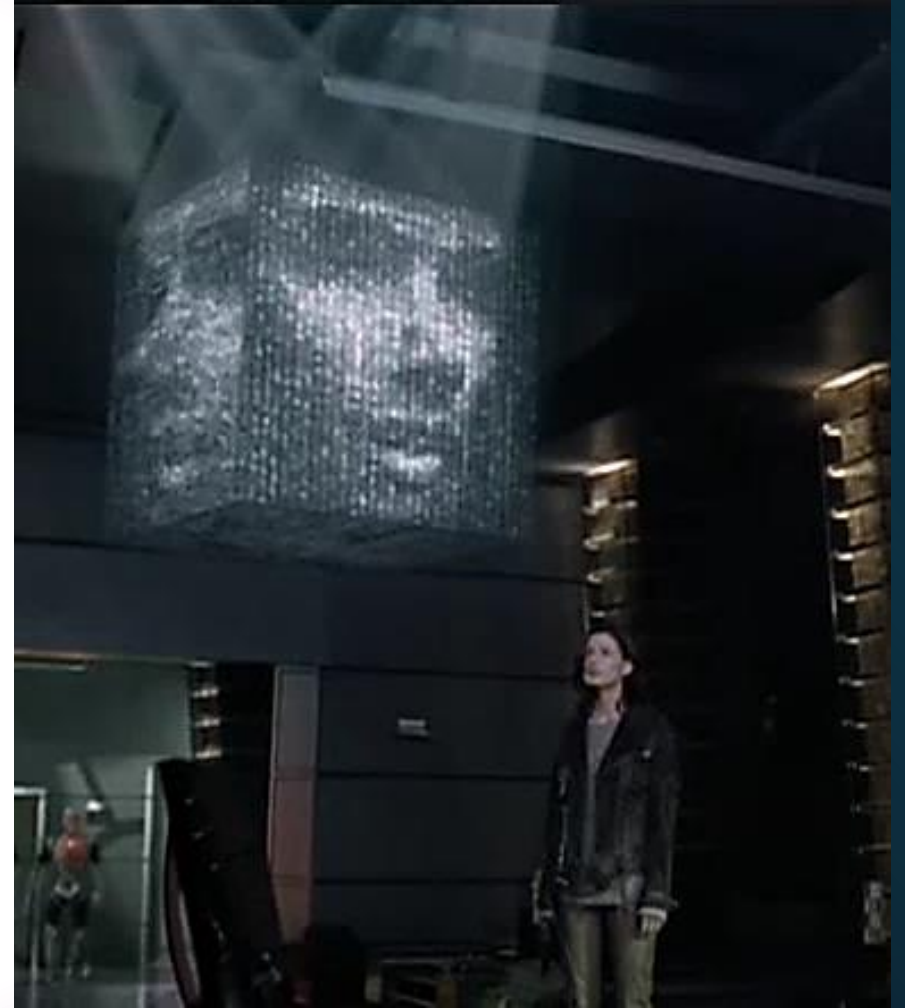


- **Hallucination:**
 - AI can produce errors or misinformation
 - Example: NY attorneys sanctioned for filing a court brief with non-existent case citations written by ChatGPT
- **Bias:**
 - AI can generate racist or sexist responses in text or images
- **ChatGPT4o:**
 - OpenAI claims substantial mitigation of hallucination and bias
 - We shall see!

The Future of AI is Unclear

Generative AI can become a better tool, and maybe some day provide lowly arbitrators with its benefits along with an assurance of confidentiality. Or, the future can become more ominous. Geoffrey Hinton – a British computer scientist known as the “grandfather of AI” – says we seriously need to worry if AI learns to change its own computer coding, and so to modify itself.

This conjures up the AI villains of HAL 9000 in *Space Odyssey 2001* and V.I.K.I. in *I-Robot* from 2004. Both AI supercomputers gained consciousness and then chose their own goals instead of what humans intended. And both AI villains murdered human beings who got in the way of AI’s chosen goals. But, of course, in those science fictions flicks, the villains were defeated by humans.



September 26, 2024



THE EXPLOSION IN ARTIFICIAL INTELLIGENCE

DATA MINING DEEP LEARNING





ANGER

5%

INTELLIGENCE

87%

CONFIDENCE

65%

RELIABILITY

90%

GENUINENESS

80%

**YOU'RE
HIRED**

HIRING



HIRING

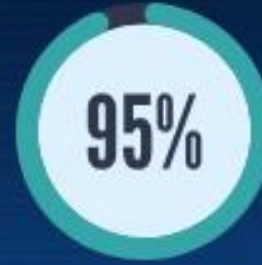
Discrimination issues

CREATES BIAS

- Flaws: humans or data
- Past hiring practices
- Import prejudice from other sources

REDUCES BIAS

- Creates “virtual screen”
- Identifies sources of bias
- Decreases unconscious bias



PERFORMANCE, PAY & PROMOTIONS



MONITORING IN THE WORK SPACE



 SentryPC

 humanyzed

 slack

 TERAMIND

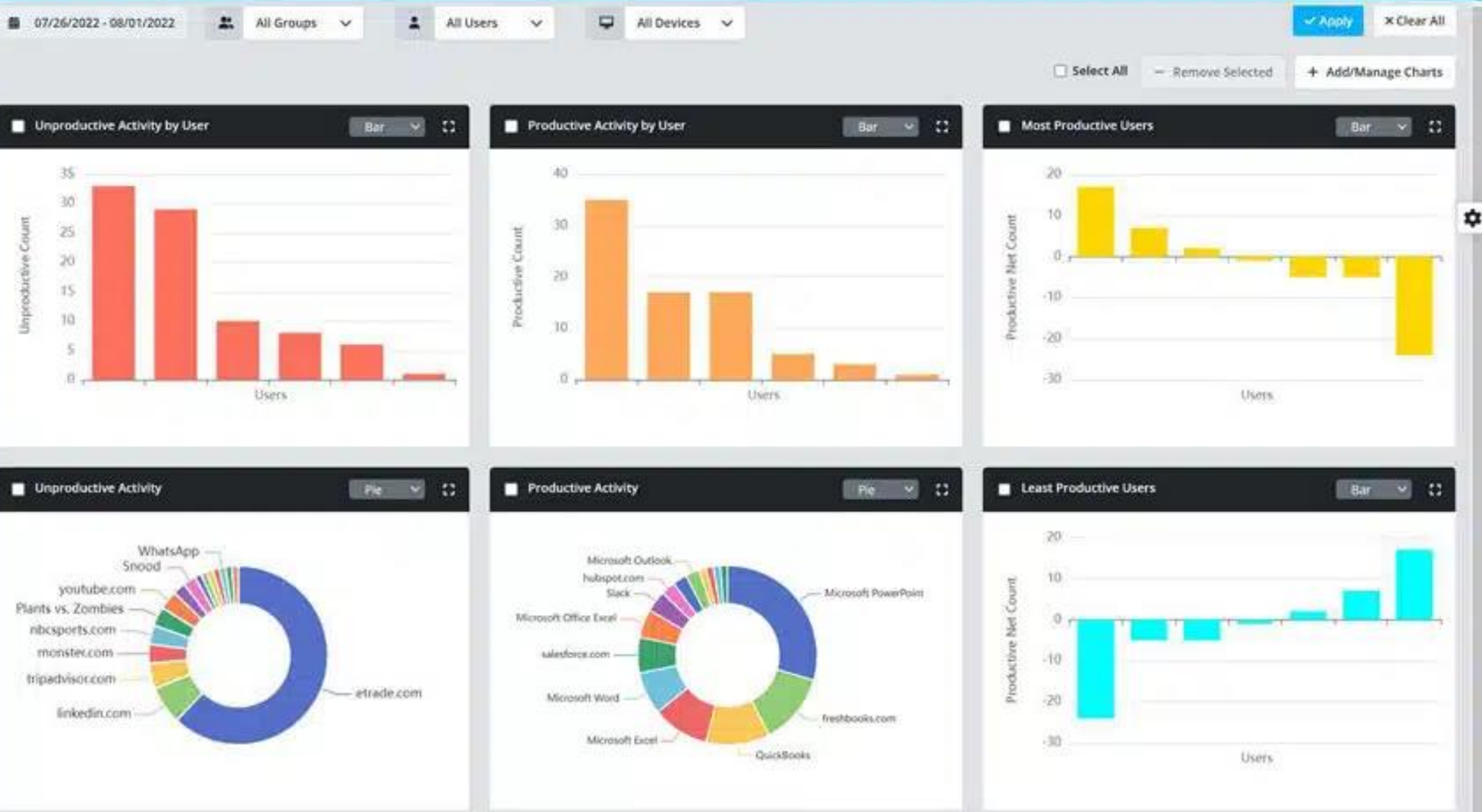
Workplace
Monitoring

(Veriato)

amazon

cogito

- Dashboard
- Productivity
- Alerts
- Data Explorer
- All Users
- Reporting
- Configuration
- Admin
- Support
- Subscriptions



Teramind

take a guided tour

START A FREE TRIAL

TERAMIND

Productivity



Main Admin
Administrator



EXPLAIN THIS PAGE

TIME TRACKING

BI REPORTS

DASHBOARDS

MONITORING

RISK

PRODUCTIVITY

BEHAVIOR

EMPLOYEES

COMPUTERS

CONFIGURE

SYSTEM

May 14, 2023 - May 20, 2023

Last sync time: 2023-05-15 04:46

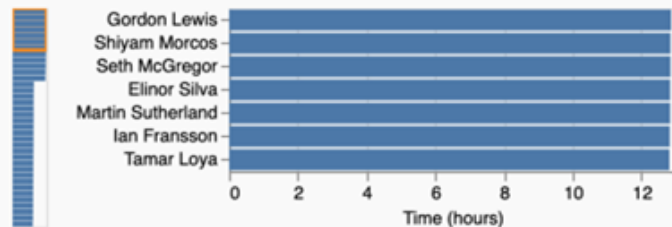
EXPORT

CLONE

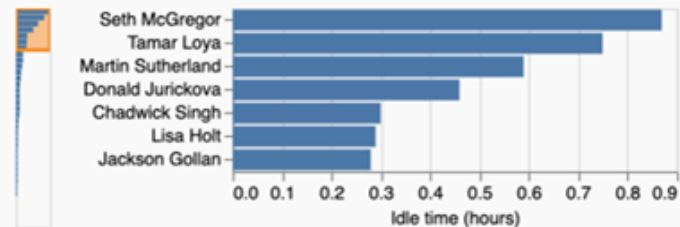


Basic | Departments | Tasks | Time Worked | +

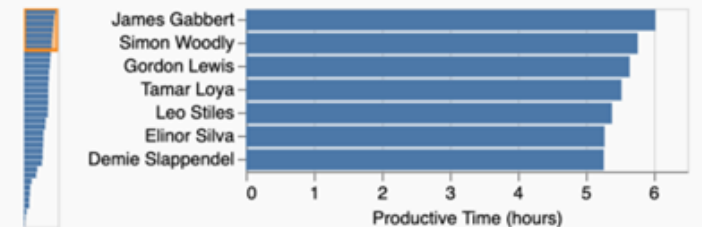
TOP EMPLOYEES BY WORK TI...



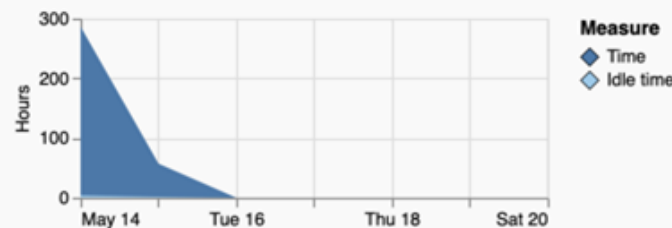
TOP EMPLOYEES BY IDLE TIME



TOP EMPLOYEES BY PRODUC...



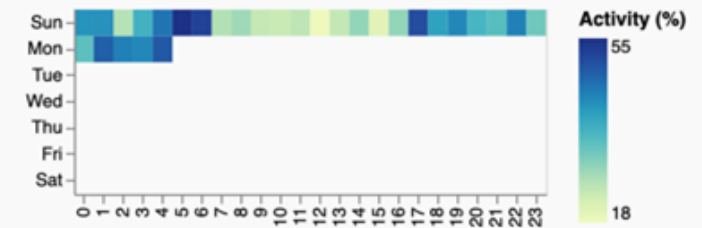
TIME WORKED



ACTIVITY (KEYBOARD/MOUSE)




ACTIVITY (KEYBOARD/MOUS...



TRY TERAMIND

Chat

ON-THE-JOB MONITORING

A man with glasses is sitting at a desk in a dimly lit room, working on a laptop. A desk lamp is on to his right, casting a warm glow. On the desk, there are various items including a pair of red scissors, a small framed picture, and a black mouse. The background shows vertical blinds and a dark wall.

Growth

- Percentage of employers using software to monitor has doubled (to 60%) since beginning of pandemic.
- Growth of 17%/year expected through 2030.

Reasons

- Understand how ees spend their time (79%).
- Confirm ees working full day.
- Ensure ees use work equipment only for work.

How Are Employers Monitoring?

- The most popular methods are software that monitors **web browsing and application use** (76%); **captures random screenshots** (60%); **blocks content and applications** (54%)p and **logs keystrokes** (44%) (Digital.com Study 2023)
- **IDC Global 2022 survey of 816 organizations with 500 employees**
 - **Websites visited** – 37.9%
 - **Logins/logouts** – 36.1%
 - **Documents/data accessed** – 35.1%
 - **Active and idle time** – 33.1%
 - **Key logging** – 32.2%
 - **Technology to review email, messaging, voice** – 29.8%
 - **Location tracking** – 29.7%
 - **Screen capture** – 26.3%

U.S. Laws Regulating Employee Monitoring

➤ Notice Laws

- **CA:** “Personal information” includes: (a) Internet or other electronic network activity information, including browsing and search history; (b) geolocation data; and (c) audio, electronic, visual, thermal, olfactory, or similar information
- **CT:** Written notice of collection of information on an employer’s premises concerning employees’ activities or communications by any means other than direct observation
- **DE/NY:** Notice if employer “monitors or otherwise intercepts” telephone or e-mail communications or Internet usage

➤ Location Tracking

- 6 states require consent to track via GPS app downloaded to a personal device
- 16 states require consent to track a personal vehicle

Key Takeaways: Legal Compliance

1. Use real-time monitoring tools only when truly needed
2. Provide notice to employees even when not legally required
3. Consider obtaining written consent where consent is required
4. Implement a short retention period subject to litigation holds





CHILLS

Workers discussing
working conditions
and union activity

MONITORING **OFF**-WORK AND ONLINE ACTIVITIES



ON DUTY
Phone calls
Emails



OFF DUTY
Social
Media

LEGITIMATE NEEDS

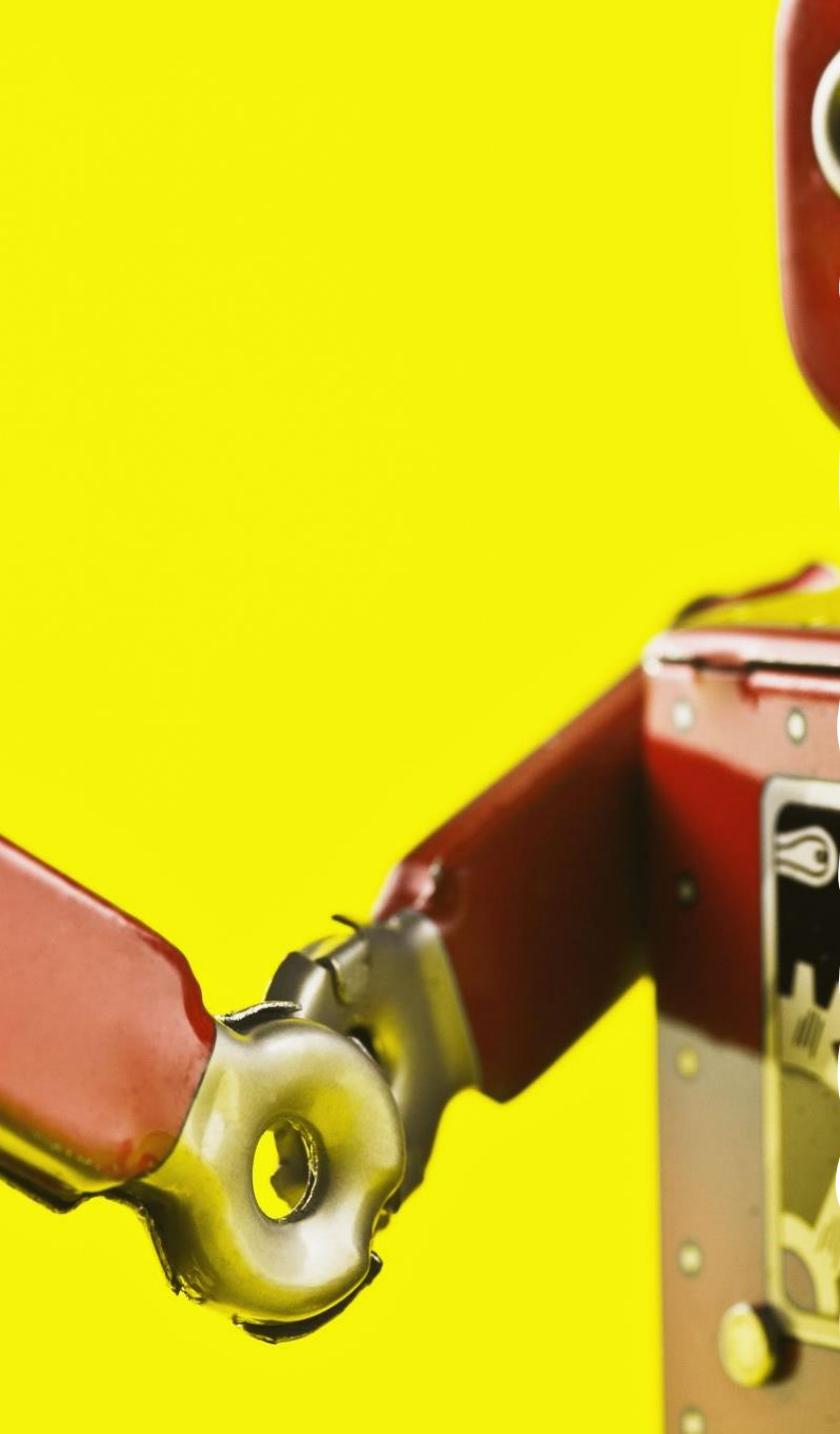
Flagging of employees who
can pose safety problems

Preservation of company's
reputation

Possible Take-Aways

1. Overly intrusive surveillance.
2. Permanent digital resumes.
3. A new role for unions.





Regulate A-I Surveillance?

1. Even supposedly menial tasks often are performed most efficiently when ees have the ability to use some level of judgment.
2. The rote tasks that today are subject to the most intense micromanaging probably are the next tasks that will be taken over by robots.
3. Ees hate micromanagement, and will slack or quit or demand a wage premium or **organize a union**.



Permanent Digital Resumes

- Employers & HR firms can:
 - Use AI to scour the web.
 - Augment with incredibly detailed performance records and other collected data.
- Social risks include:
 - Blacklisting individual workers.
 - Freezing in time a person's perceived performance/work ethic/personality.

A New Role for Unions in an Age of A-I Surveillance

Bargain over:

1. Hiring criteria – limit the scope of the digital resume.
2. Less, and less-intrusive, digital monitoring.
3. How ers can use the data they collect.

Should FMCS mediators become experts on the topic, to guide discussion during bargaining?

Comprehensive Digital Profiles Will Chill § 7 Rights

1. How can a worker prove an er is using these profiles to discriminate based on union activity or proclivity?
2. Even if a profile never uses the word “union”, a comprehensive digital profile could easily tell the er everything it wants to know.



Professor Richard Bales

- Professor of Law
- Ohio Northern University