PENSIONS AND LIFETIME SAVINGS ASSOCIATION

THAMES VALLEY WEBINAR

AI in pensions: threats and opportunities

23 MAY 2024

Please turn your microphone and camera off during the presentation sessions

@ThePLSA

AGENDA

1. Introduction
2. Key speaker presentation and Q&A's
3. Final thoughts

Please ask questions in the Q&A box

AI in pensions: threats and opportunities

STEVE LEAKE
RUTH BAYLIS
XPS

S poll

SESSION OUTLINE

1. What is AI?
2. Current applications of AI in pensions
    - XPS Data Pool and AI
    - XPS chat tools
    - AI in wider pensions industry
3. Challenges and risks in AI
4. Future applications of AI in pensions

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WHAT MAKES US HUMAN?

AI'S GROWING PRESENCE

In the May 2023 ONS Opinions and Lifestyle Survey, half of the adults reported using AI in their day-to-day lives within the month.

WHAT IS AI?

- A **machine-based** system that, for **explicit or implicit objectives**, **infers**, from the **input** it receives, how to **generate outputs** such as predictions, content, recommendations, or decisions that can influence physical or virtual environments.

- Different AI systems vary in their levels of **autonomy** and **adaptiveness** after deployment.

TERMINOLOGY

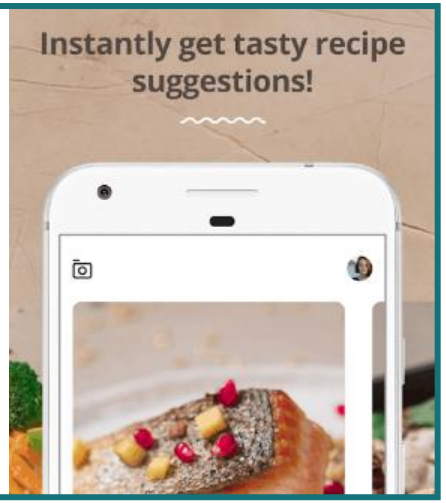
Large Language Model (LLM)

- The AI model is trained on a vast amount of textual data to carry out language-related tasks.

ChatGPT

Machine Learning (ML)

- Computer algorithms that can ‘learn’ by finding patterns in sample data.



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XPS DATA POOL

- Data from over 200 schemes, covering more than 1.2 million member records.
- Depersonalised pension details, member experiences, and socio-economic information.

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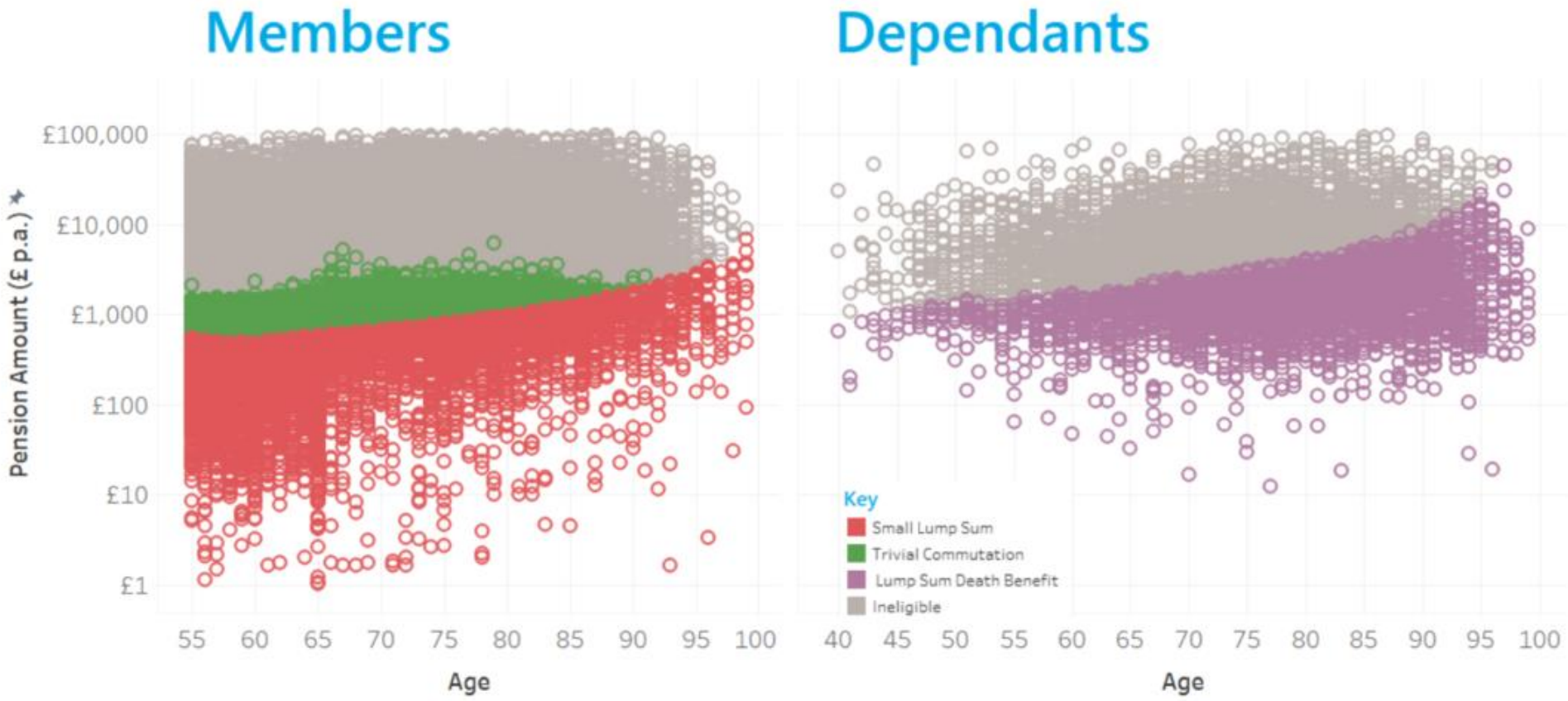
TRIVIAL PAYMENTS ELIGIBILITY MODEL

XPS Pensions Group

XPS Analytics



TRIVIAL PAYMENTS TAKE-UP

Small Lump Sums (SLS)	70%
Trivial Commutations (TC)	25%
Dependants (TCDB)	70%

Trivial Payment Take-Up Prediction

High

Applying these take-up rates to the eligible members would result in the following payments:

Deferred		Pensioner		Dependant	Grand Total
SLS	TC	SLS	TC	TCDB	
£256K	£1,194K	£555K	£1,383K	£917K	£4,305K

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XPS POLICY TOOL

GUESS THE ANIMAL?

A terrestrial entity adorned with elongated auricles, possessing a caudal appendage, and characterised by a locomotion akin to rhythmic propulsion through aerial phases.

It has long ears, a tail, and hops.

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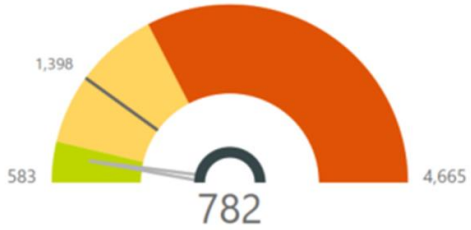
XPS Syntax
Communicating Pensions
Engaging Members

Best 25% | Central 50% | Worst 25% | Median

Readability

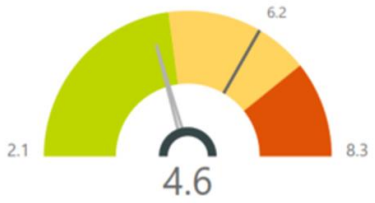
Documents are easier to read when they contain shorter sentences and words with fewer syllables.

Word count



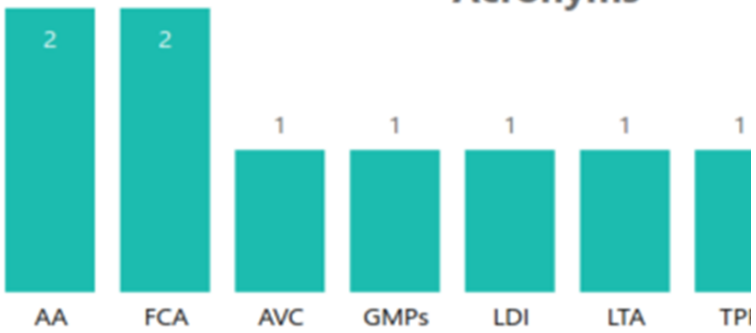
Consider the total number of words used. Can the document be shortened?

Pensions terms (%)



How much technical language is used in your document? Will this be understood by the reader?

Acronyms



Pensions terms

Are technical terms explained in simple language?

Phrase	Count
pension	61
pension scheme	10
deficit	6
liabilities	6
investment strategy	5
state pension	5
inflation	4
options	3
accrual	2
actuarial valuation	2
annual allowance	2
asset	2
benchmark	2
debt	2
expression of wish	2
funding level	2
Total	**167**

EQUALITY, DIVERSITY AND INCLUSION

Document accessibility

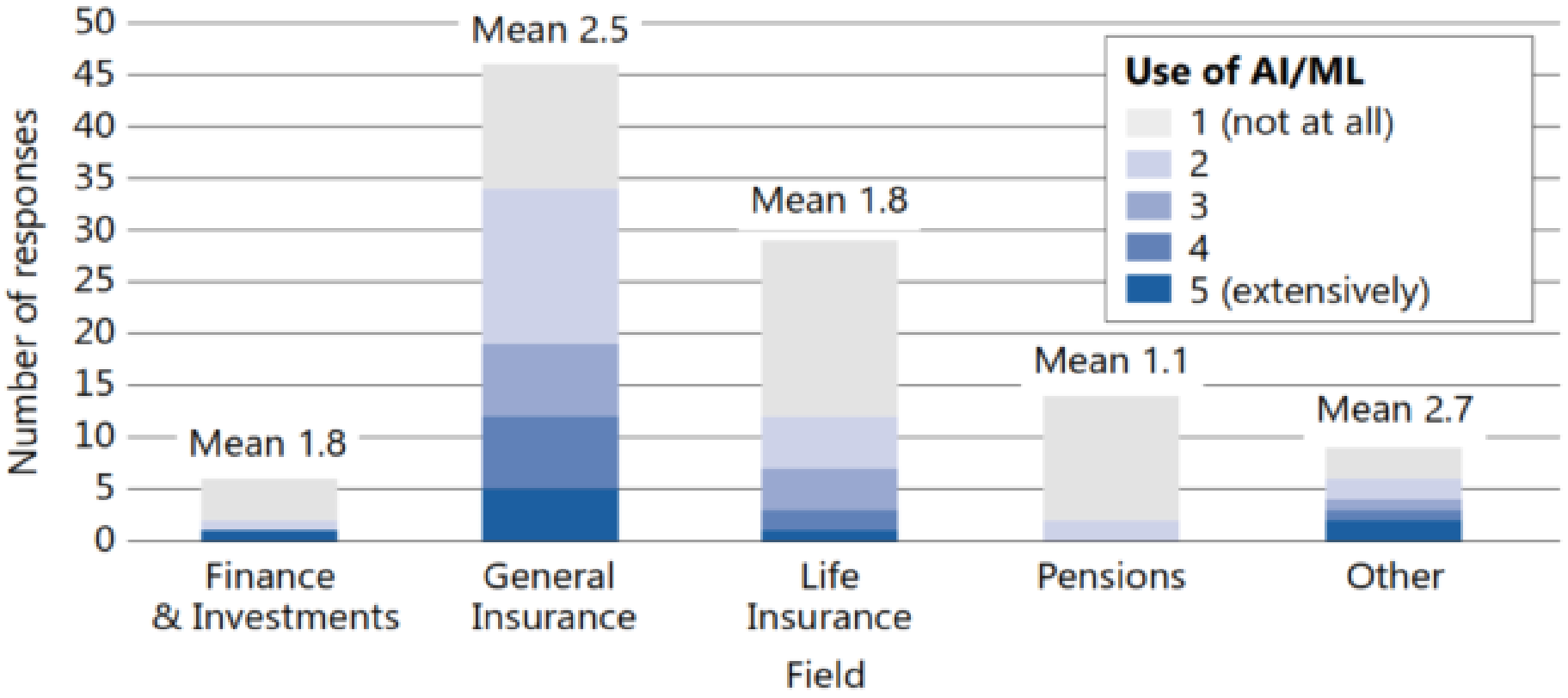
Type	Result
Alternative representations	
Figures/images	no issues found
Link descriptions	issue(s) found
Mathematical expressions	no issues found
Structured content	
Links	issue(s) found
Lists	no issues found
Table of contents	no issues found
Tables	no issues found

XPS Syntax
Communicating Pensions
Engaging Members

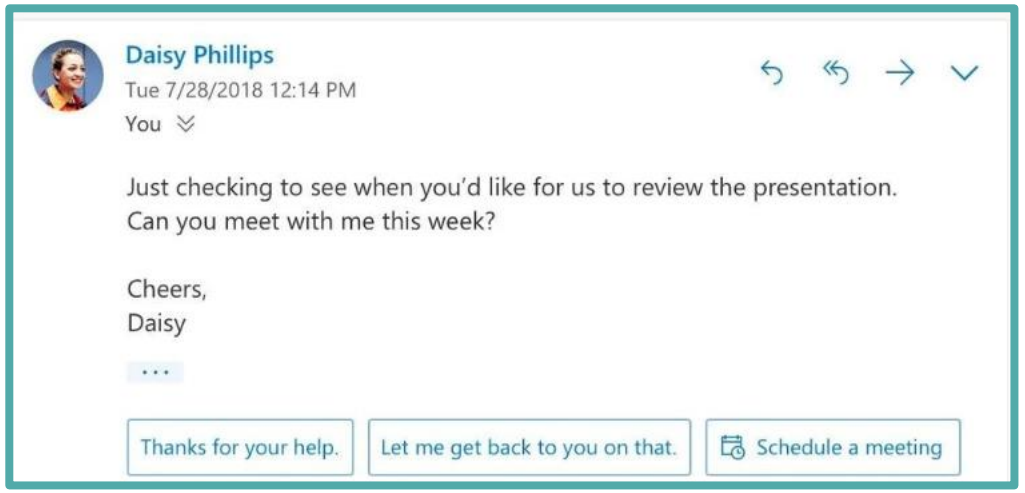
Language to review

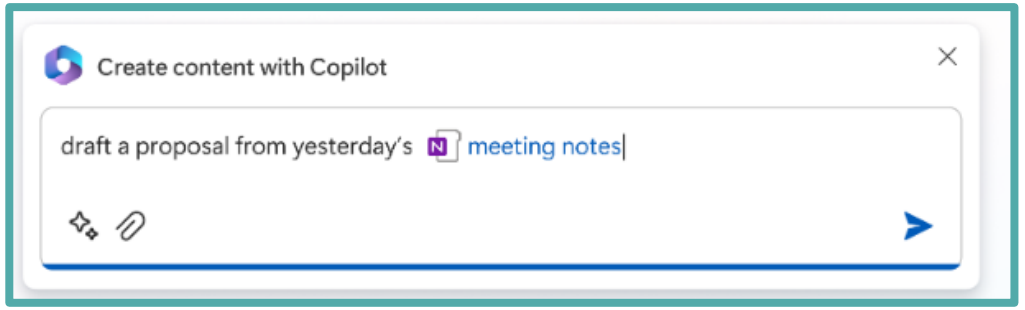
Phrase	Alternatives
chairman	chair, chairperson

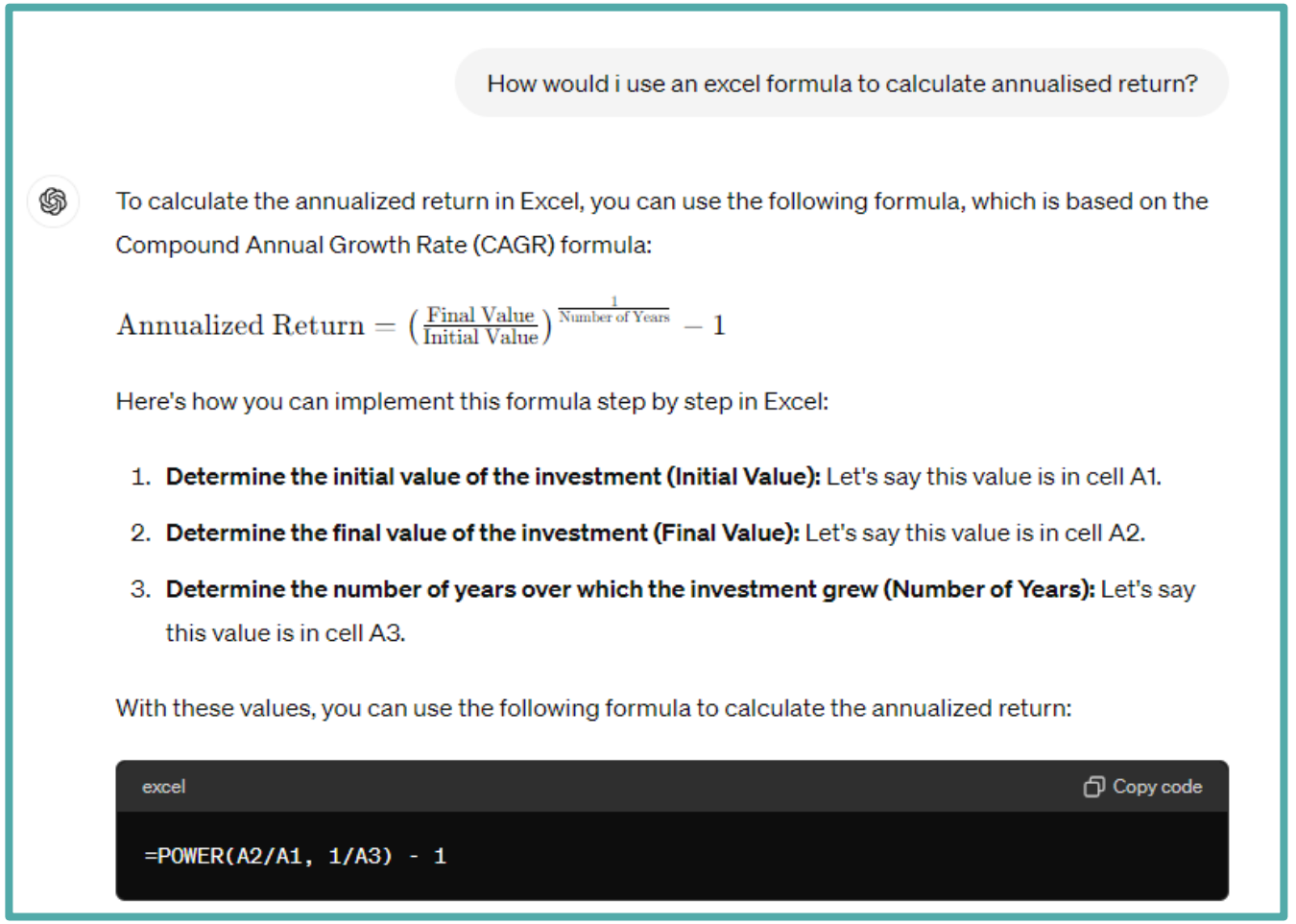
FRC: THE USE OF ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING IN UK ACTUARIAL WORK - OCT 2023



AI IN PENSIONS: GENERAL TOOLS







AI IN PENSIONS: EXAMPLES

"Alexa, open Smart Pension"
"What is my summary?"
"What is my investment report?"
"What is my pension worth?"
"Who is my beneficiary?"
"How much am I paying into my pension?"
"What is my personal information?"
"Update my contribution percentage to five percent."

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AI IN PENSIONS: EXAMPLES

CIVICA

Chatbot trained on pensions legislation

E.g. What would make a firefighter with 20 years' service eligible for retirement through ill health?

momentum

Meet the investment manager using AI for tactical asset allocation

21 February 2024

Momentum Global Investment Management has been working with an artificial intelligence tool for 18 months and is now ready to use it in live portfolios to help make tactical asset allocation decisions.

Buck announces AI data management tool for pension schemes

BUCK
A Gallagher Company

LONDON, 12 October 2023 – Buck, a Gallagher company, an integrated HR, pensions, and employee benefits consulting, technology, and administration services firm, has today announced that it is developing an artificial intelligence (AI)-powered data management tool for U.K. pension schemes. The new proprietary tool will be used to assist pension schemes with their data cleansing requirements, ensuring the accuracy and integrity of member records.

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DATA QUALITY AND AVAILABILITY

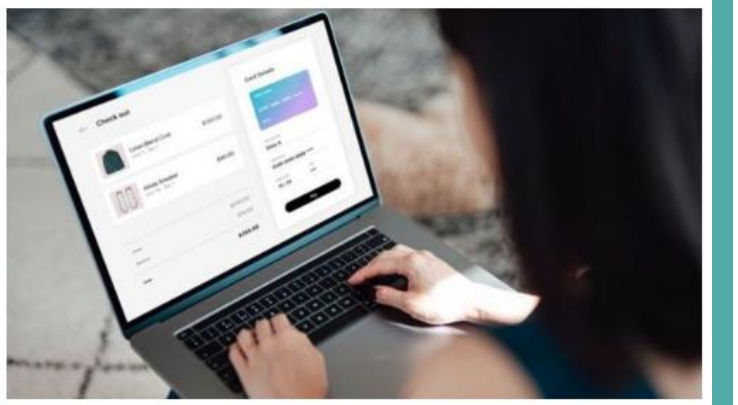
Data quality assessment and transparency

Integrate various sources, clean and preprocess

Monitor and update models as new data becomes available

Use techniques such as feature engineering or ensemble learning to mitigate limitations

PRIVACY AND DATA SECURITY



UK watchdog looking into Microsoft AI taking screenshots

The ICO wants to know the safeguards around Recall, which can take screengrabs of your screen every few seconds.

Scarlett Johansson 'shocked' by AI chatbot imitation

Data minimisation and anonymisation

Encryption, access controls, audit trails and monitoring

Compliance with regulations, risk management and incident response plan

Employee training

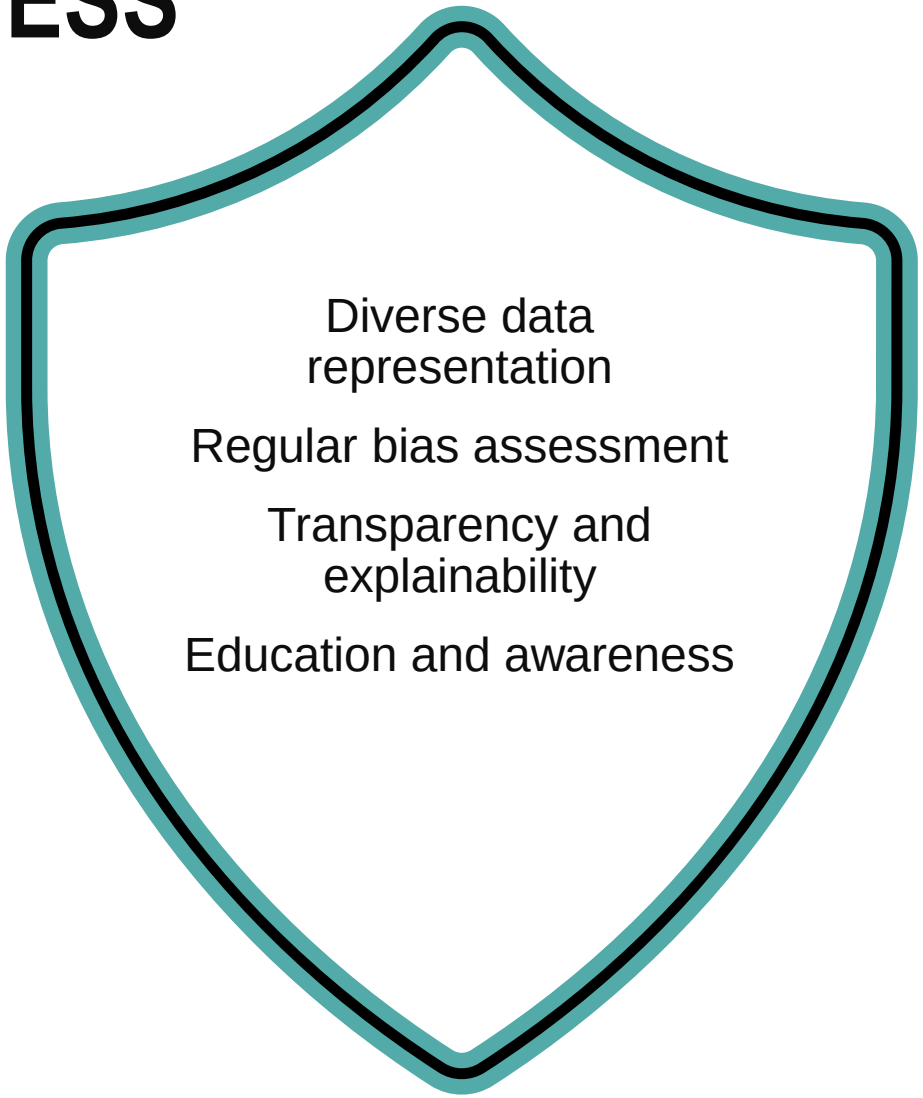
ALGORITHMIC BIAS AND FAIRNESS

amazon

Amazon scrapped 'sexist AI' tool

10 October 2018

An algorithm that was being tested as a recruitment tool by online giant Amazon was sexist and had to be scrapped, according to a Reuters report.



INTERPRETABILITY AND EXPLAINABILITY

REGULATORY COMPLIANCE AND GOVERNANCE

The FRC review noted that where there are specific governance practice for AI, this often focused on ensuring analysis is explainable to actuarial reviewers, model owners, senior decision makers and regulators.

SKILLS AND TALENT GAP
INFRASTRUCTURE GAP

ETHICAL AND SOCIAL IMPLICATIONS
HUMAN PERSPECTIVE

IFoA: the Actuaries' Code; Ethical and professional guidance on Data Science, 2021

RELIABILITY

- Harm caused by failure rates
- Harm caused by intentional misuse

OECD AI VALUE-BASED PRINCIPLES

Inclusive growth, sustainable development and well-being

Robustness, security and safety

Human rights and democratic values, including fairness and privacy

Accountability

Transparency and explainability

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A story

THE FUTURE FOR MEMBERS?

Hyper-Personalised Retirement Planning

Intelligent Member Engagement and Communication

Predictive Member Health and Longevity Analysis

Fraud Detection and Prevention

Better engagement

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THE FUTURE FOR PROFESSIONALS?

Complement

vs

Replace

ANY QUESTIONS?

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UPCOMING EVENTS & TRAINING 2024

Event	Date

Please visit www.plsa.co.uk/events to register

PENSIONS AND LIFETIME SAVINGS ASSOCIATION

THANK YOU FOR ATTENDING

Slides and meeting link will be circulated after the meeting and available on our website:

https://www.plsa.co.uk/About-us/Local-Groups/Thames-Valley-Group

Please join us for our next meeting on **2 July 2024:**

- in-person held in Reading – hosted by Isio
- Cyber security and what can schemes do to help protect themselves and their members

@ThePLSA