



'I, Robot - the future of AI in Information Services'
Wednesday 28th June, 1 - 4:15pm

Developing a library strategic response to AI

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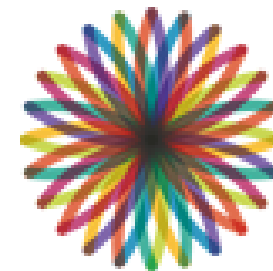


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QS World University Rankings by Subject 2022

Athena Swan Bronze 2021
Committed to Gender Equality.



Part 1: Defining AI



Privacy / surveillance



Artificial Intelligence



80p

i

WEDNESDAY
31 MAY 2023
Number 3906

FAMILY

*I refuse to
be called
grandma
- I hate it*

P17

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22

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CONSUMER

**The £1.50
loaf of sliced
white bread**
**Food inflation
in 2024**

P10

EXCLUSIVE

**ITV bosses face
grilling by MPs
on Schofield**

P4

LEGAL

**PPE
contracts
on trial
at Covid
inquiry**» Hancock's
pub landlord
and Michelle
Mone set to
give evidence

P8

AI creators fear the extinction of humanity

- » Artificial intelligence could lead to human life being wiped out, leading experts say
- » Two of the 'godfathers' of AI plus the chief executives of pioneering firms OpenAI and Google DeepMind give their gravest warning yet and compare the threat to nuclear war
- » They are concerned that AI could be used to quickly build weapons of mass destruction, destabilise governments, censor communication and 'enfeeble' dependent humans
- » 'Prophecies of doom' are overblown, insist other experts, who highlight new benefits

**STUART RITCHIE - HOW TO UNDERSTAND THE AI HEADLINES AND LATEST DISCOVERIES P15**

P7

WAUGHON
POLITICS**Millennials
have warmed
to Sunak.
However...**

P19

TRAVEL

**Ride the new
European
sleeper from
London to
Berlin**

P37

TRAVEL

**Home Office
was warned
of passport
e-gate chaos 16
months ago**

P6

HISTORY

**Medieval sense
of humour
revealed: get
drunk and enjoy
Monty Python**

P5

LIFE

**'I am
fraysexual
- I only want
sex with
strangers'**

P25

 BANK OF ENGLAND NEEDS TO OWN UP TO ITS MAJOR MISTAKES - BY JOHN REDWOOD P10 | HEALTH - INSIDE THE SEED OIL CONTROVERSY P34
 MARK WALLACE - CAREFUL! PRICE FIXING NEARLY OBLITERATED THE ROMANS P11 | THE SEVEN TORY TRIBES - YASMIN ALIBHAI-BROWN P22

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'Boris? I just
don't want
to think
about him'
What it was really
like inside No 10
Cleo Watson



AI 'is clear and present danger to education'

School leaders announce joint response to tech

Nicola Woolcock Education Editor

Artificial intelligence is the greatest threat to education and the government is responding too slowly to its dangers, head teachers say.

A coalition of leaders of some of the country's top schools have warned of the 'very real and present hazards and dangers' being presented by the technology.

In a letter to The Times published today, they say that schools must collaborate to ensure that AI works in their best interests and those of pupils, not of large education technology companies. The group, led by Sir Anthony Seldon, the head of Eton College, also announce the launch of a new body to advise and protect schools from the risks of AI.

The initiative is supported by Geoff Barton, head of the Association of School and College Leaders and by the heads of dozens of private and state schools. They include Helen Pike, the master of Magdalen College School in Oxford, James Dahl, the head of Wellington College in Berkshire, and Alex Russell, chief executive of the Bourne Education Trust, which runs nearly 30 state schools.

Seldon, a former university vice-chancellor and a biographer of Boris Johnson, held a school heads' conference at Eton this week. He told The Times that AI could bring the biggest benefit since the printing press but that

the risks were 'more severe than any threat that has ever faced schools'.

There is growing recognition of the dangers of AI. Rishi Sunak told reporters at the G7 summit this week that 'guardrails' would have to be put around it. The Times reported last week that one of the 'godfathers' of AI research, Professor Stuart Russell, had warned that ministers were not doing enough to guard against the possibility of a super-intelligent machine wiping out humanity.

Gillian Keegan, the education secretary, held a conference this month that AI would have the power to transform a teacher's day-to-day work, taking out much of the 'heavy lifting' by marking and making lesson plans.

Head teachers' fears go beyond AI's potential to aid cheating, encompassing the impact on children's mental and physical health and even the future of the teaching profession.

Their letter says: 'Schools are beset by the very fast rate of change in AI and seek secure guidance on the best way forward, but whose advice can we trust? We have no confidence that the large digital companies will be capable of regulating themselves in the interests of students, staff and schools and in that the government has not shown itself capable or willing to do so.'

They say they are pleased that the government is now 'grasping the nettle', but add: 'AI is moving far too

Continued on page 2



Green king Monty Don has spoken about how our gardens reflect our shifting relationship with nature, and why he would ban artificial grass. Interview, pages 36-37



Lust for life
The married
couple's guide
to bedtime

Giles Coren
What I know
about wine
and women

My big week:
Suella
Braverman
According to
Hugo Rifkind



80p

FRIDAY
19 MAY 2023
Number 3896

INTERVIEW
'I'm bothered
by Madonna
- and other less
talented people
who think
they can act'
Theatre legend
Patti LuPone



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MONARCHY

Prince will use
'car chase' in
his legal battle
with the
Home Office
over security

+ Jennie Bond
I understand Harry's grief
- but he and Meghan must
decide what life they want



IN DEPTH

The Brexit deal
that could cut
thousands of jobs
in Leave-voting
England and hike
food prices

TRANSPORT

Boris Johnson's
Great British
Railways project
is dropped

UK warns: new rules needed to tame AI

» British Government is pushing for regulations to protect humanity against the potential dangers of artificial intelligence, Rishi Sunak reveals

» Prime Minister will use this week's G7 summit in Japan to push for united stance among global allies

» In a dramatic shift in tone, the UK is now focusing on the threats posed by AI, as well as opportunities

» Sunak cautions: 'The technology is evolving quickly and we want to make sure our regulation can evolve'

» Some scientists are demanding new rules on AI to protect society, political systems and even human life



MEDIA

I am one of
the 800,000 who
have deserted the
Today programme
Gillian Reynolds



LIFE

'You look well'
Words you should
never say to a
middle-aged man
Simon Kelner

FAMILY

How to talk
to toddlers
First, put down
your phone



SCIENCE

Ancient kissing
Early Mesopotamians
were first at it
- and now they're
rewriting history

TRAIN STRIKE ON 2 JUNE P19 | CONSUMER - 'I ONLY SPEND £60 A WEEK ON FOOD AND IT'S ALL ORGANIC' P36 | PUZZLES P31
★★★★ BEYONCÉ IN THE UK - THE POP GODDESS TURNS HUMAN P17 | WAUGH ON POLITICS P11 | TV & RADIO GUIDE P30



This 'near catastrophic' car chase is the Harry and Meghan story that's finally broken me!

JAN MOIR SEE PAGES 24-25

As BT says it's replacing 10,000 workers with artificial intelligence technology...

IS THIS THE START OF THE GREAT A.I. JOBS BLOODBATH?

WORKERS were given a chilling glimpse of the future yesterday after BT said it would replace 10,000 staff with AI. The telecoms giant said it

By Calum Muirhead
Senior City Reporter

would cut the jobs through increased 'automation' over the next seven years as part of a wider programme of layoffs. It sparked a fierce debate about

the effect the 'march of the robots' is having on jobs – and on customers' experience.

Many of the roles earmarked for replacement with computers are expected to be in BT's customer service department. It raised fears

Turn to Page 4



Destiny:
Phoebe
Waller-
Bridge in
Cannes
last night

Phoebe's come a long way from Fleabag SEE PAGE THREE

19th April

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Artificial intelligence (AI)

Scientists use AI to discover new antibiotic to treat deadly superbug

AI used to discover abaucin, an effective drug against *A baumannii*, bacteria that can cause dangerous infections



Maya Yang
Thu 25 May 2023 20:54 BST

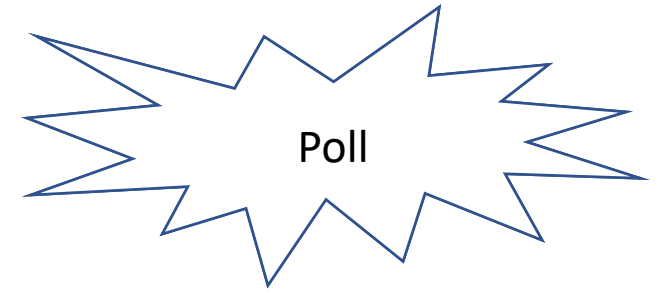
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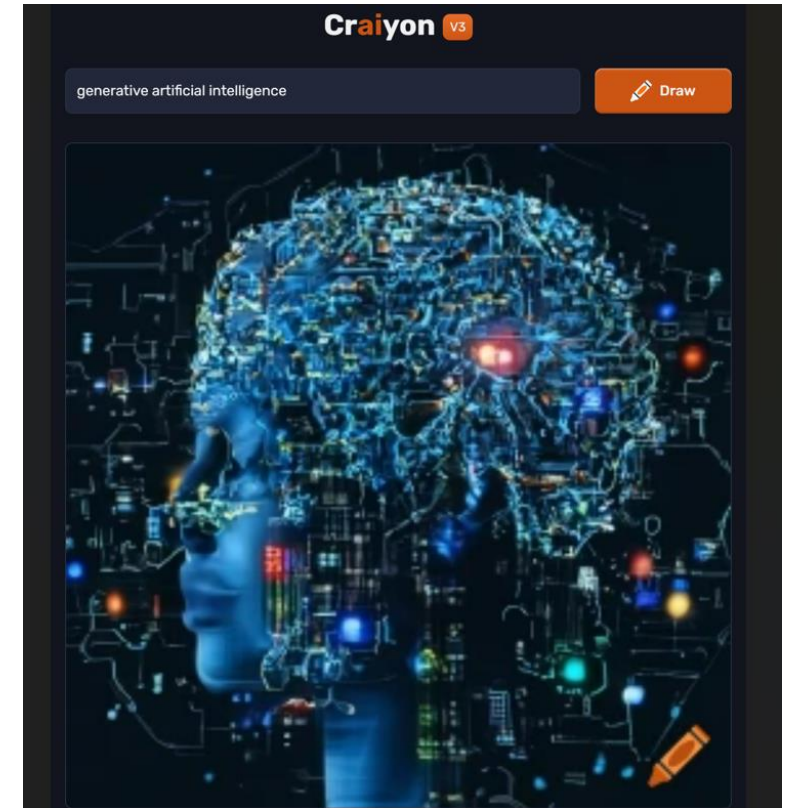
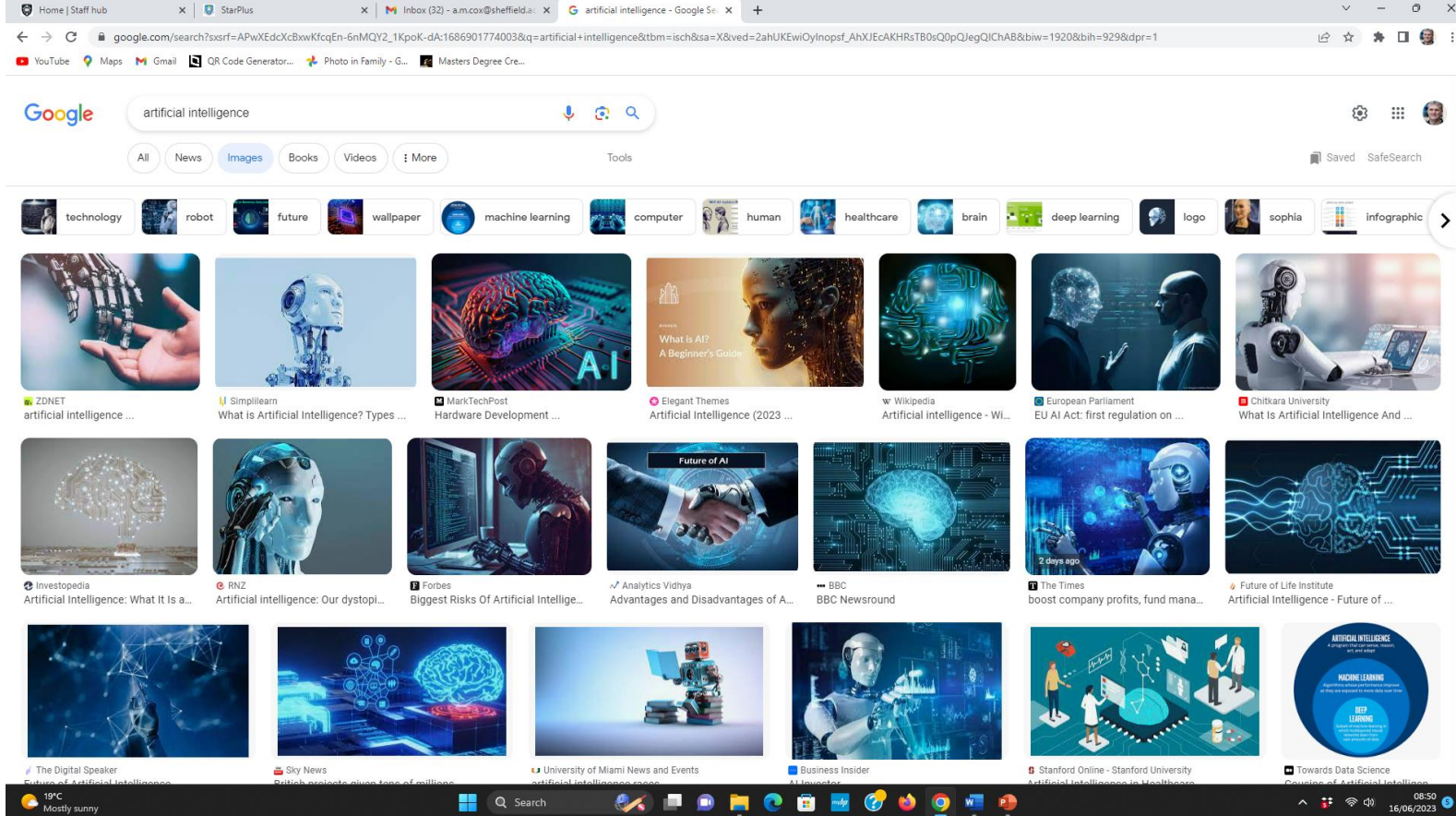
Artificial Intelligence: a strategic priority



What word best describes your feelings about AI?

Wooclap.com ... event code CDNLID





Artificial Intelligence

Formal definitions

- “AI is the ability of a computer system to solve problems and perform tasks that would otherwise require human intelligence.” (US National Security Commission on AI, 2021)
- A suite of technologies and tools that aim to reproduce or surpass abilities in computational systems that would require ‘intelligence’ if humans were to perform them. This could include the ability to learn and adapt; to sense, understand and interact; to reason and plan; to act autonomously; or even create. It enables us to use and make sense of data.” (UKRI, 2021: 4)
- “Machines that imitate some features of human intelligence, such as perception, learning, reasoning, problem-solving, language interaction and creative work (UNESCO, 2022: 9).
- Simply put, AI is a collection of technologies that combine data, algorithms and computing power.” (European Commission, 2020: 2)

The familiar face of AI

- Spam filtering
- Plagiarism detection
- Transcription and captioning
- Translation
- Recommendation
- Search
- Predictive text

Familiar problems:

- Inaccuracy
- Bias eg which languages translated most accurately
- Privacy concerns around recommendation
- Filter bubbles created in search
- Power of big Tech companies

The old new face of AI in libraries? *Descriptive AI*

- 10,000 video files with only titles to search on
 - Unrealistic to manually enhance records
- AI might offer better search
 - Based on voice recognition (as per captioning) provide a transcript of things people say that can be used to search
 - Based on image recognition
 - Identify types of objects (eg cars, houses)
 - Identify places / people
 - Identify music
- Will not be 100% accurate
- Might be hard to explain it how works
- Might be systematically inaccurate, eg if trained on majority voices (eg English people speaking English, not a broad accent or Irish) – *not bias in AI, bias in data or how data is handled*
- Guidelines eg via Lee (2022)
<https://arxiv.org/abs/2207.02960>
- Cost of systems v skills to build

Definition: AI for information professionals

Using AI in our own daily work

- Using AI tools in your own work, eg book ordering, summarising texts... etc
- Robotic process automation of backend processes

Using AI in our own services to users

- Supporting use of AI built into third party search tools – choosing and selecting such tools
- Applying machine learning to organisational datasets
 - Text mining the literature or creating metadata special collections of text, images, audio - any data at scale
 - Eg ML applied to library heritage collections, eg oral histories, handwritten manuscripts, image collections
 - Using AI tools within Systematic Literature Review process
- Developing a chatbot or voice assistant for information service users
- Exploiting generative AI
- ...
- Creating a robot animal petting zoo!

Supporting a community of data scientist users

- Providing data e.g. from special collections or locating/ licensing external data sets for analysis + data governance and stewardship
- Advice on tools
- Developing training data for machine learning
- Creating a community of data scientists or simply participating

Folding AI / data literacy into IL

- Promoting data and AI literacy across an organisation or with public
 - Could be aspect of citizen awareness of AI in search
 - Could be in a specific context, eg students using translation tools or writing tools or other research tools (like rabbitai)

Supporting wider use of AI in the organisation

- Input to your organisation's adoption of AI, e.g. in procurement, training, data capture etc

Using AI to monitor/ predict/influence user behaviour

- E.g. applying sentiment analysis to social media responses to information services, trying to predict occupancy of library from weather

National Library of Scotland report (Dalglish, 2022)

- 22 different projects to use AI in every single department
- For staff
 - Indexing of content such as identifying features on maps or street names on maps
 - Transcription
 - Flagging questionable catalogue descriptions
 - Identifying risk associated with copyright
 - Monitoring use of building
- For user services
 - Visualising collections
 - Auto summarisation
 - Making content accessible
 - Supporting digital literacy
 - Chatbot
 - Personalisation
 - Creating art works
 - Developing policy on what to archive from AI generated material

New new face of AI: Generative AI as general AI

Chat GPT

- Draft a short or long piece of text eg essay or cover letter for job application or a tweet or a policy document
- Answer questions
- Write code
- Solve a maths problem
- Create content in multiple languages
- Supply a recipe
- A new paradigm of search?
- Proliferation of GPT based applications for “research” - <https://www.futurepedia.io/>
- LLM can be leveraged to perform tasks such as generating metadata OR transforming between standards OR creating training data



Why has Generative AI created such a strong response

- It is general AI
- Its appealing to users because its easy to use through chat interface
- “Sudden” appearance
- Its directly used in search
- Wider moral panic about AI

Ethical challenges of AI, example: Chat GPT

- Makes biased statements because of biases in training data/the way training data is curated, eg GPT biased about gender and race
- “Hallucinates” information which is inaccurate, threatening trust in information – fails to credit its sources, even fabricates citations – cannot itself be cited
- Could accelerate content creation explosion – leading to even more challenges of information overload
- Is unexplainable because it is far from open about what data it is based on or how it works
- Privacy is at risk if you share your data with it – many companies blocking use due to fear of loss of data
- Violates copyright by using our text and data on the Internet as training data without permission
- Threatens jobs, eg journalists, editors and marketing
- Is available to people with money to subscribe, disadvantages those without
- Was developed by exploiting very low paid Kenyan workers to detoxify content
- May not be environmentally sustainable
- Reveals the disruptive power in the hands of big Tech companies

It is both about

- How to use it ethically?
- But more broadly ask questions about how ethical was its creation?
- Critical IL has never been more needed!

Questions to prompt students to ask about Chat GPT, Bing and Bard, and spin off apps

- Learn how to use it effectively, by experiment and reading reviews
- Use it for learning and reflectively
- Protect your own privacy
- Ask who owns, develops and profits from it
- Use it ethically
 - Are you permitted to use it in this context, eg under what conditions does your institution permit its use?
 - Acknowledge it's use appropriately, eg there is APA citation guide <https://apastyle.apa.org/blog/how-to-cite-chatgpt>

MS Co-pilot

Promised in MS Co-pilot

- Convert a word document to a presentation, allowing tweaking of content and tone
- Do preliminary analysis on data and write narrative
- “Summarize the emails I missed while I was out last week. Flag any important items.”
- “Summarize what I missed in the meeting. What points have been made so far? Where do we disagree on this topic?”
- “Create a table of pros and cons for [topic being discussed]. What else should we consider before making a decision?”
- Makes more of functions of office visible
- Presumably adaptivity to your needs
- Interact via voice

Anticipated issues with Co-pilot

- Need to check for errors – who is responsible for errors?
- May be biased in errors, eg misrecognising some speech patterns
- Probable variable reliability of different operations (eg document conversion v meeting analysis)
- Will require prompt engineering skills
- Need to point at have access to relevant documents – silos of information will remain problem
- Need to manage politics of document creation
- Forces you to keep all material accessible to co-pilot, eg MS platform
- Acceleration of demands on staff and increased surveillance
- Productivity agenda

Is AI...?

- Like the calculator (used to be banned in schools, but now taken for granted = bring back slide rules and log tables!)
- Like Wikipedia (bring back Encyclopaedia Britannica!)
- Like Google search and Amazon recommendation
- Like text messaging (with predictive text) and spell checking in word processors
- Like the invention of the Internet
- Like the power loom and we are the hand loom weavers!

Balanced response

Pessimism

- Bias and impact on social equality
- Impact on trust in information and content overload
- Power of Tech companies beyond control of society

Optimism

- Access to knowledge
- Easier information creation
- Potential regulation
- Relevance of professional skills around data and information literacy

Need for greater agility?

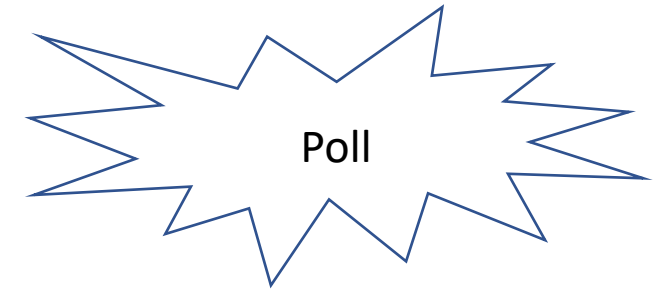
What types of uses are most relevant to your work?

From a recent rapid pre-event survey (N=68)

- Promoting AI (and data) literacy for users – 50% planned; 9% pilot or mature service
- Library specific chatbot – 22% planned; 16%
- Text and data mining support 21%; 9%
- Knowledge discovery of collections 19%; 13%
- An institutional chatbot 12%; 9%
- Automation of systematic reviews 15%; 4%
- Supporting institutional data scientist community 12%; 12%
- Library user behaviour prediction 6%; 1%

Which of these barriers to using AI is the toughest in your context, and why?

1. Ethical and legal issues
 1. Privacy concerns
 2. Concerns about bias and lack of transparency
 3. Security risks
 4. GDPR compliance and legal uncertainty
2. Data issues
 1. Issues of data quality or availability
 2. The effort required to create training data
3. Skills and image of the profession
 1. Lack of information professional skills
 2. Other people's dated assumptions about what information professionals can do
 3. IT owns the agenda
4. Over promising/ hype by vendors
5. Implementation challenges
 1. User fear of technology/ need for culture change / slow user acceptance
 2. Lack of turnkey solutions and so cost in \$ and resource
6. Other priorities



Wooclap.com ... event code CDNLID

Which are the most important barriers to the library using AI? (0= not important; 5= major barrier)



Pre-event survey: Key challenges

- Concerns about ethics, such as bias, intelligibility and confidentiality – 35 [only 2 said it was not important]
- Lack of relevant technical skills among library staff – 32 [only 5 rated this as not important]
- Cost of commercial products – 26 [only 8 rated this as not important]
- IT own the agenda - 22
- More important priorities - 18
- Culture changed among users - 17
- Lack of data / data quality - 13
- Value of AI unproven - 9
- Lack of turnkey solutions - 7 [low response suggesting question not understood]

Institute for Ethical AI in Education (2021)

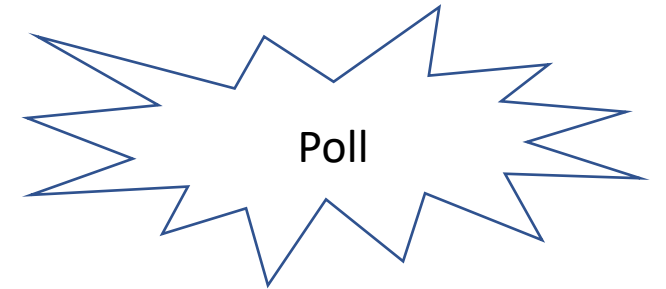
- **Achieving Educational Goals.** AI should be used to achieve well-defined educational goals based on strong societal, educational or scientific evidence that this is for the benefit of learner *
- **Forms of Assessment.** AI should be used to assess and recognise a broader range of learners' talents
- **Administration and Workload.** AI should increase the capacity of organisations whilst respecting human relationships
- **Equity.** AI systems should be used in ways that promote equity between different groups of learners and not in ways that discriminate against any group of learners *
- **Autonomy.** AI systems should be used to increase the level of control that learners have over their learning and development
- **Privacy.** A balance should be struck between privacy and the legitimate use of data for achieving well-defined and desirable educational goals
- **Transparency and Accountability.** Humans are ultimately responsible for educational outcomes and should therefore have an appropriate level of oversight of how AI systems operate
- **Informed Participation.** Learners, educators and other relevant practitioners should have a reasonable understanding of artificial intelligence and its implications *
- **Ethical Design.** AI resources should be designed by people who understand the impacts these resources will have

A pathway towards responsible ethical AI

	Risks	Mitigations/benefits
1. Does this proposal fit our institution's objectives?		
Why are we doing this?		
Will it work?		
Does it advance our institution's mission?		
2. Does using AI fit our institution's mission and culture?		
What level of ethical complexity can we accept?		
Does using AI in this way fit our local mission, community and culture?		
Is AI a less intrusive way to do it?		
3. Are we ready to do it?		
Is the institution ready?		
Is the supplier ready?		
4. Does using AI raise specific issues?		
Control		
Explanation		
Bias		
Learning		
The details		
Law	Consider a DPIA to balance benefits and risks to individuals	
Technology	Consider how technology choices can affect your proposal's risks and benefits	
Ethics	Consider an ethical AI framework to identify and resolve ethical dilemmas	

A strategic response to AI?

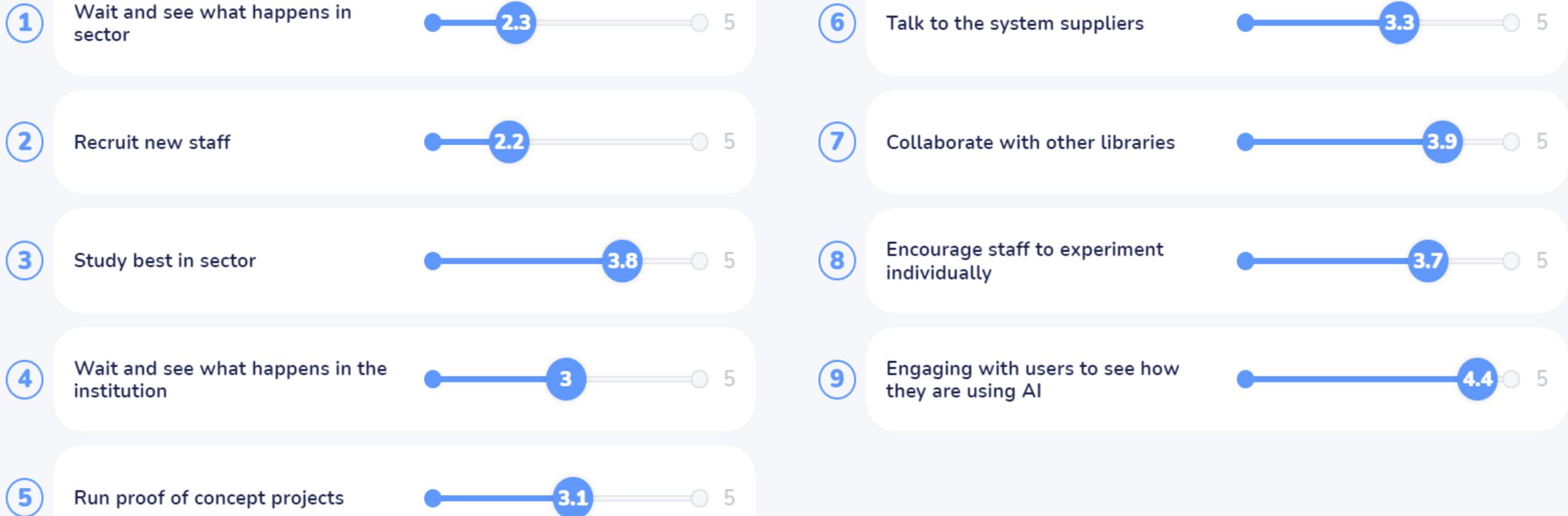
- Wait and see what happens in sector
- Wait and see what happens in the institution
- Recruit new staff
- Study best in sector
- Engaging with users to see how they are using AI
- Run proof of concept projects
- Ask staff to experiment individually
- Talk to the system suppliers
- Collaborate with other libraries



Which strategies seem appropriate to approach AI at the current time?

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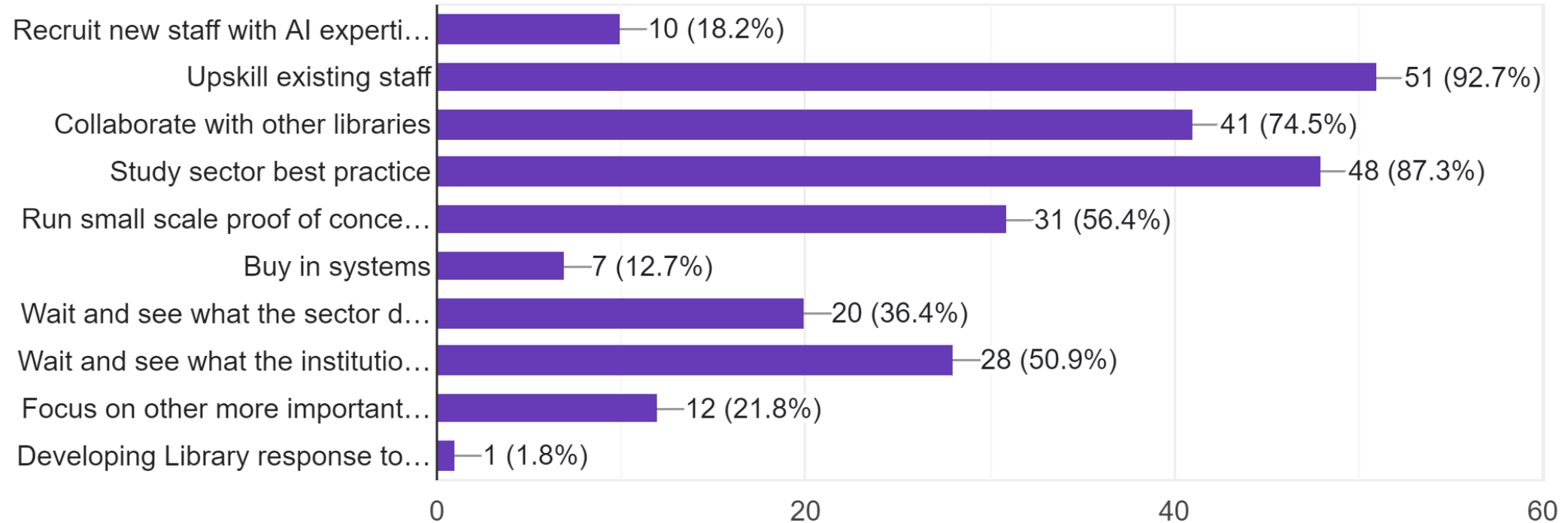
Which strategies seem appropriate to approach AI at the current time? (5 most likely)



Stance according to pre-event survey

Which strategies seem appropriate for your library to approach AI? (Tick all that apply)

55 responses



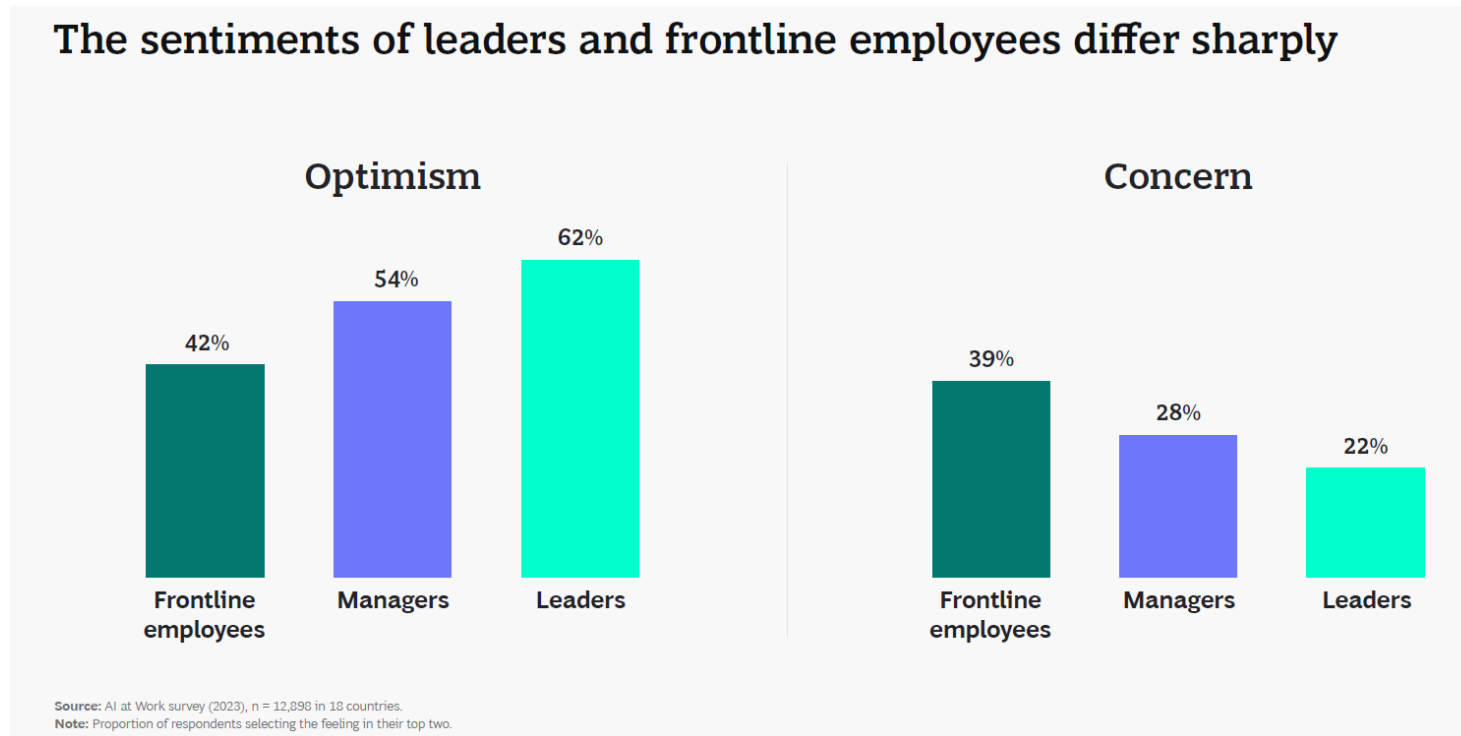
AI's impact on jobs

- “Generative AI will upend the professions” Susskind and Susskind – FT 18.06.2023
- Some scholars predict the replacement of professionals (Susskind and Susskind, 2015)... others emphasise the vulnerability of “routine” jobs (Frey and Osborne, 2017)...

- Replaced
 - Dominated
 - Divided
 - Complemented
 - Augmented
 - Rehumanized
- (GPAI, 2020)

Differences by sector

- Early studies of Chat GPT in workplace suggest an equalizing of skill



Boston Consulting Group on AI

Could AI reinforce workforce inequalities?

- A female majority profession, yet already has a gender pay gap and has serious failings in diversity
- AI will be controlled by tech/senior where male over-represented
- Wider AI workforce internationally is white and male
 - Built in assumptions in AI created by this workforce
- IT's cultural associations with white male

“Artificial Intelligence has the potential to exacerbate societal bias and set back decades of advances in equal rights and civil liberty.” (Leavy et al., 2020)

WEF (2020) – 10 skills to thrive in the 4th Industrial revolution

1. Complex Problem Solving
2. Critical Thinking
3. Creativity
4. People Management
5. Coordinating with Others
6. Emotional Intelligence
7. Judgement and Decision Making
8. Service Orientation
9. Negotiation
10. Cognitive Flexibility

AI and information professional
jobs: Coder, supporter, trainer or
manager?

Where do information professionals position themselves in relation to AI?

- Directly writing code
- RPA with backend processes
- Managing data
- Creating training data

Relates to admin

Relates to collection management

Spectrum of roles and so competencies



Relates to liaison work

- Creating communities around AI
- Educating users
- Capturing user requirements
- Managing a responsible AI project

Relates to IL

- Developing a vision for AI

Relates to strategy

AI relies on data – our data knowledges/ attitudes are relevant

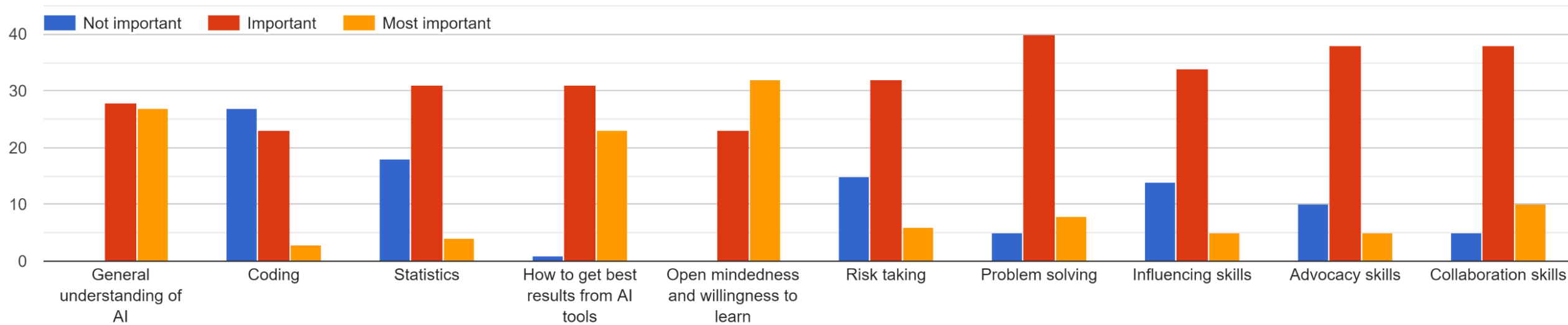
- How to find data in a complex information landscape
- The emphasis on the value of sharing, openness and interoperability
- How to understand the provenance and quality of that data to determine its usefulness
- What data can be used for and what not (copyright etc)
- How to describe data using standards
 - Maybe need to supply richer data about provenance
- How to pick tools to do analysis
- How to store (or destroy) derived data

Attitudes

- Service focus / balanced with sense of institutional agendas
 - Cf Technological solutionism
- Collaborative skills / Influencing skills
- Commitment to professional development and learning
- Professional knowledge sharing

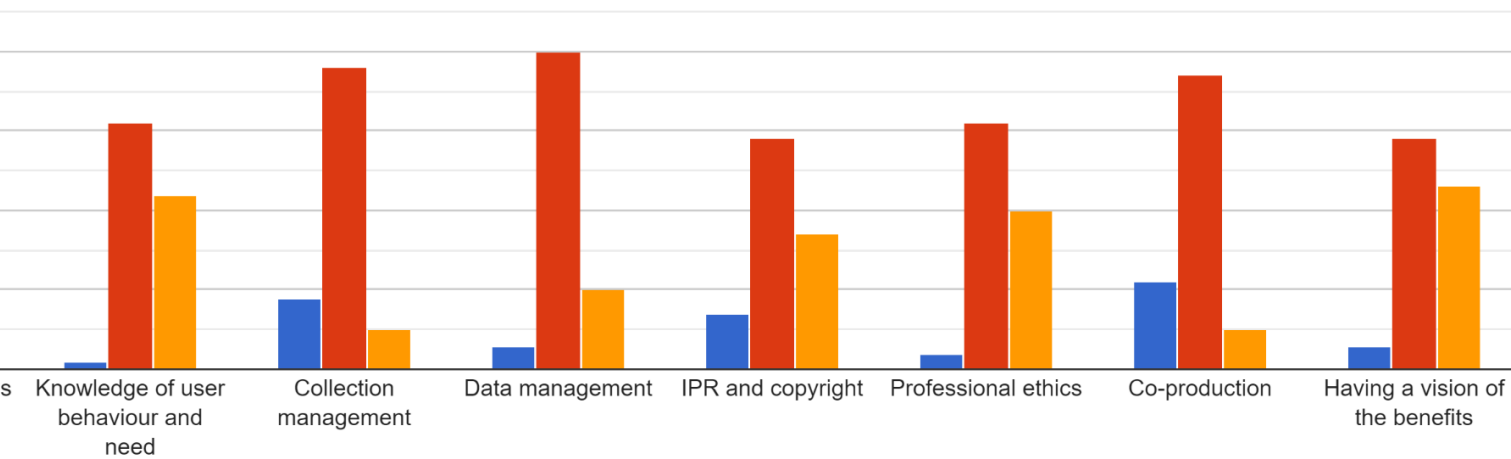
Competencies we need to develop

In your opinion, what types of knowledge, skills and other attributes do librarians need to develop to apply AI to knowledge discovery? [E.g. using AI to improve access to information]



Competencies we need to develop

ccess to special or unique library collections]



A vision

The *paradigm of the intelligent library*

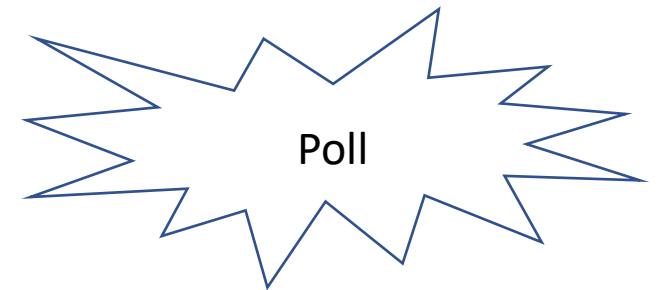
Cox, Pinfield and Rutter (2019)

From searching to find a text to read

To interacting with the full text of the library collection

OR *The living systematic review*

What is your vision of a library or information service powered by AI?



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*The impact of AI, machine learning, automation and robotics on the
information professions: A report for CILIP*

<https://www.cilip.org.uk/general/custom.asp?page=researchreport>



JISC blog entry: “Library strategy and AI”

<https://nationalcentreforai.jiscinvolve.org/wp/2023/06/05/library-strategy-and-artificial-intelligence/>

https://docs.google.com/document/d/15pKk2rJh9HHTqA6O7PWNy_7VYHIW-wc9AkV22bkX-R4/edit#heading=h.42zb7zl1anug



IFLA Special Interest Group
Artificial Intelligence

IFLA SIG on AI: 23 resources to get up to speed on AI in 2023

<https://www.ifla.org/g/ai/23-resources-to-get-up-to-speed-on-ai-in-2023/>

AI4LAM

<https://github.com/AI4LAM>

Fifth fantastic futures conference is Vancouver in November – call for papers is now out!

Regular online discussions

Special issue of Journal of Academic Librarianship- Call for Papers

<https://www.sciencedirect.com/journal/the-journal-of-academic-librarianship/about/call-for-papers>