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HOW ACADEMIC LIBRARIES BRIDGE THE GAP TO AI-DRIVEN KNOWLEDGE

Emina Adilovic

Abu Dhabi Polytechnic

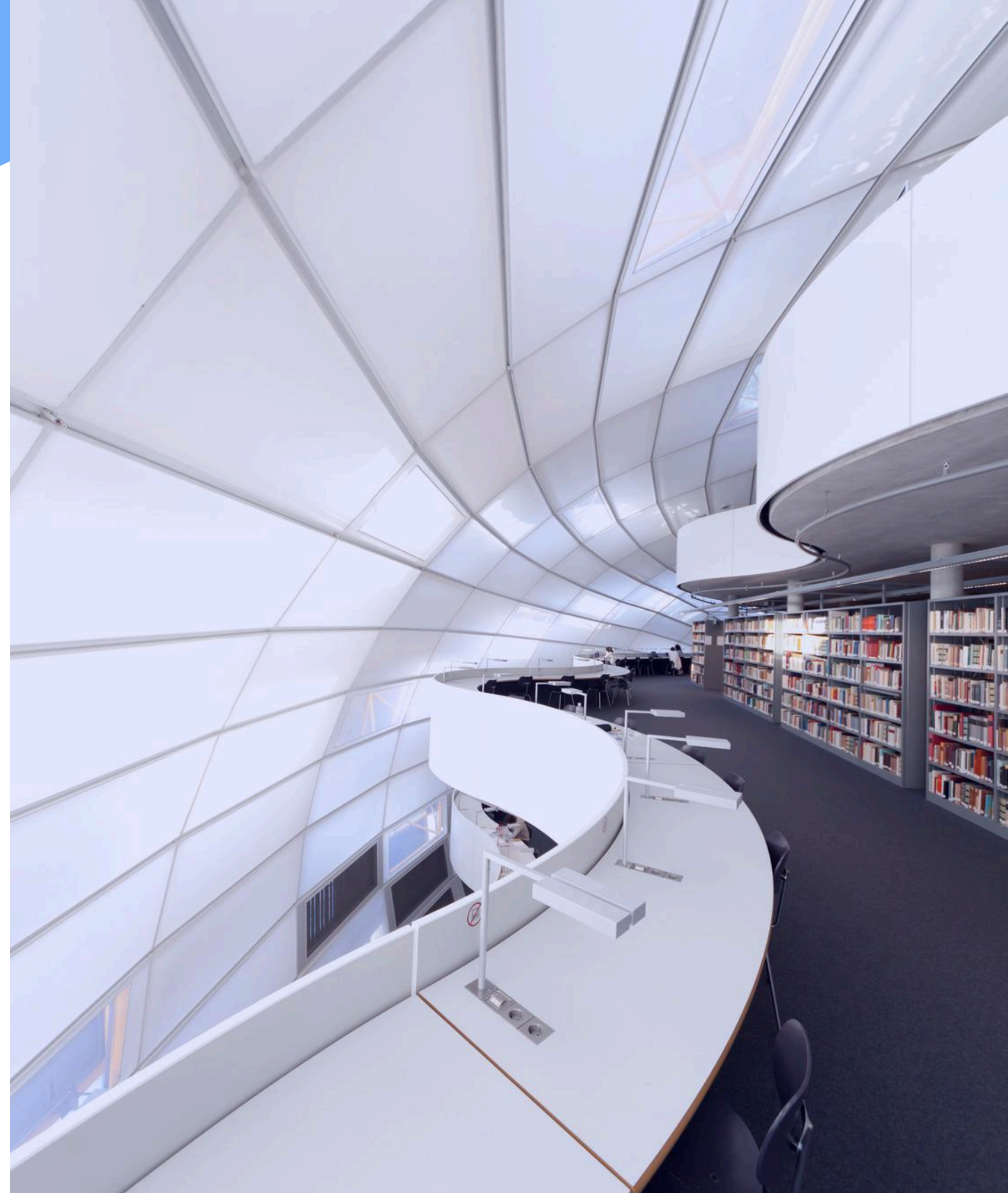
emina.adilovic@actvet.gov.ae

December 12, 2024

WHY LIBRARIES MUST LEAD IN AI-DRIVEN KNOWLEDGE?

- Libraries as hubs of knowledge curation and innovation.
- AI's transformative potential for information sciences: An opportunity to redefine our roles.
- A pivotal question: How do we ensure ethical AI adoption in academic libraries?

...the promise of AI in libraries goes beyond efficiency and convenience. Ethical considerations play a crucial role in ensuring that AI technologies are used responsibly and in a manner that promotes equity and inclusivity (Hodonu-Wusu 2024).



SOME EXAMPLES:

- AI can enhance information retrieval processes
- AI-powered recommendation systems can enhance personalized services in academic libraries
- Virtual assistants can provide immediate support to library members
- Ensuring transparency, privacy, and fairness in how AI systems operate



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CHALLENGES OF AI INTEGRATION IN ACADEMIC LIBRARIES

- Skills Gap: Need for librarians skilled in AI technologies.
- Bias and Ethics: Addressing algorithmic biases in knowledge discovery systems.
- Case in point: Limited AI adoption in smaller academic institutions due to resource constraints.

While AI can automate certain tasks, it is crucial to strike a balance between efficiency gains and preserving human involvement and expertise. Libraries should prioritize workforce development, ensuring that staff members are equipped with the necessary skills to leverage AI technologies and contribute meaningfully to the evolving landscape of library services (Hodonu-Wusu 2024).

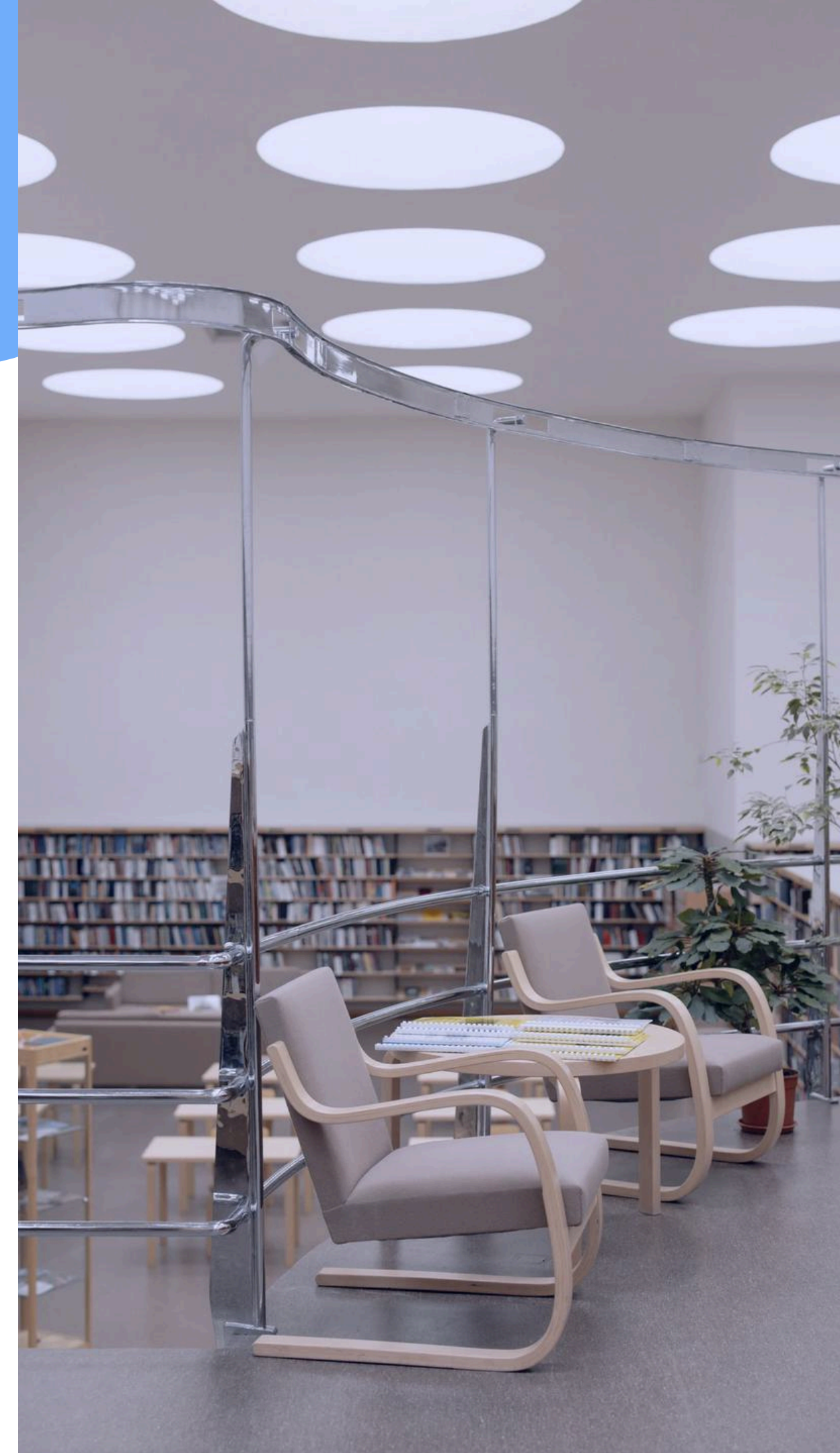
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STRATEGIES TO ACCELERATE AI-DRIVEN KNOWLEDGE

- Upskilling library professionals in AI.
- Developing AI policies aligned with institutional goals.
- Investing in partnerships with tech companies for resource sharing.



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THE ROLE OF ACADEMIC LIBRARIES IN AI EDUCATION

MISSION ONE

Partnering with faculty to
embed AI literacy in curricula.

MISSION TWO

Hosting workshops on ethical
AI use for students and staff.

MISSION THREE

Providing resources: AI policy
toolkits, guides on bias
detection in algorithms.

MISSION FOUR

Introducing critical AI literacy



MISSION FIVE

Intersection of AI and Open Science:
Enhancing accessibility to research outputs.

MISSION SIX

Libraries as stewards of FAIR data principles
(Findable, Accessible, Interoperable, Reusable).

MISSION SEVEN

Mentoring students and faculty
in AI competencies.

MISSION TEN

Advocating for equitable access
to AI education and tools.

MISSION EIGHT

Updating resources to reflect AI
advancements.

MISSION ELEVEN

Facilitating discussions on AI ethics
and academic integrity.

MISSION NINE

Supporting researchers in using
AI-powered tools.

MISSION TWELVE

Promoting awareness of AI's
societal and ethical impacts.



MISSION 13

MISSION 14

MISSION 15

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MISSION 16

MISSION 17

MISSION 18

MISSION 19

MISSION 20

WHERE IS THE END?

And how not to fall into the trap of piling up professional responsibilities?



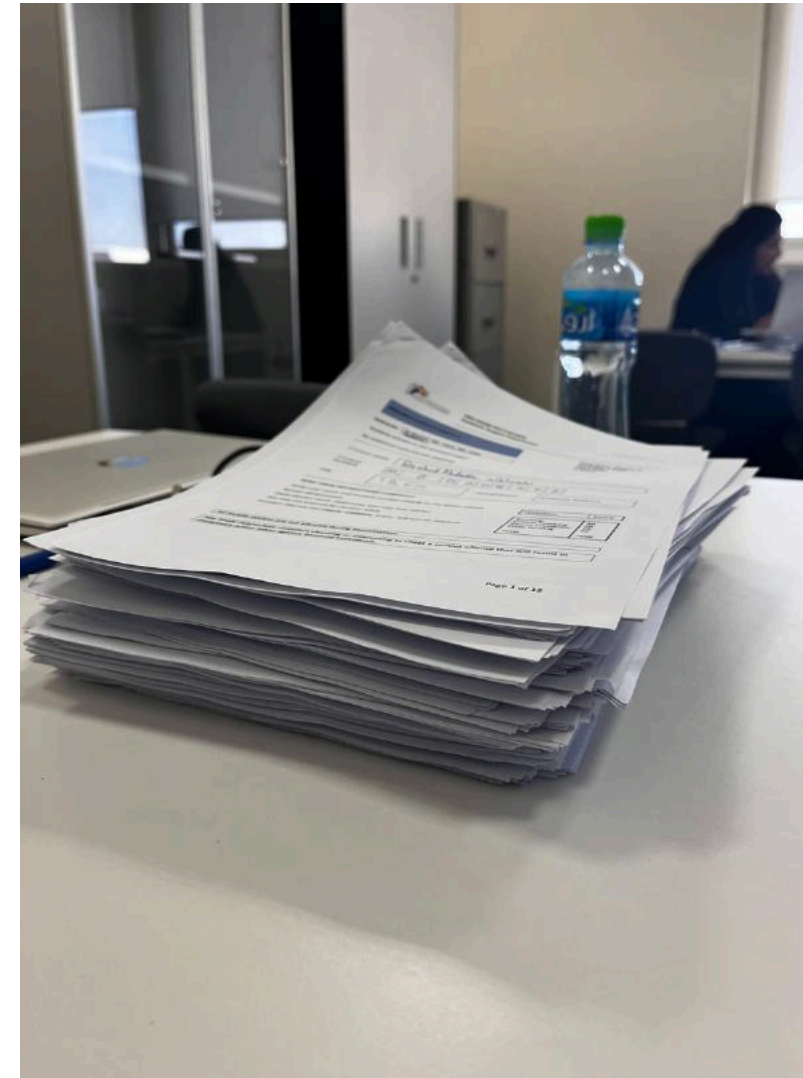
From IL towards AI literacy

Annemaree Lloyd describes the opacity and ubiquity of algorithms as “a wicked problem for librarians and archivists who have a vested interest in equitable access, informed citizenry and the maintenance of public memory.

Information literacy “provides resistance to the expansionist claims of algorithms, while at the same time ensuring that people harness the power of this culture to their advantage.”

Using **information literacy** programs as a **scaffold**, algorithmic literacy can be incorporated into these successful initiatives.

MORE EXAMPLES:



9.12.2024, AD Poly Library, Grading IL


Looks very undefined, but...

this is how AD Poly Library collaborates with faculty staff to enhance AI-driven knowledge



9.12.2024, AD Poly Library, developing research scheme


O'Reilly - Free trial



Description

Featured


Britannica Academic




7 Total Votes: 5 Overall Rating: ★★★★★

Description Training Center

ACM Digital Library




Taylor and Francis Ebooks



3 Total Votes: 5 Overall Rating: ★★★★★

Description Training Center


Scopus




13 Total Votes: 4 Overall Rating: ★★★★★

Description Training Center

American Meteorological Society (AMS)




ASTM Compass



Description

Featured


SME Digital Collection



12 Total Votes: 4 Overall Rating: ★★★

Description

OnePetro



Hi there 🙋

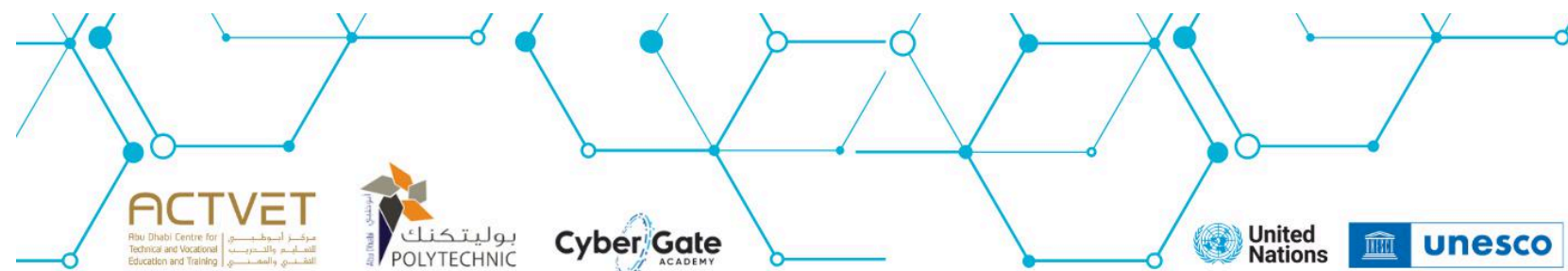
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Conversations

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New Conversation

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PRESENTATION OF UNESCO PUBLICATIONS ON GENERATIVE AI (GENAI) IN EDUCATION

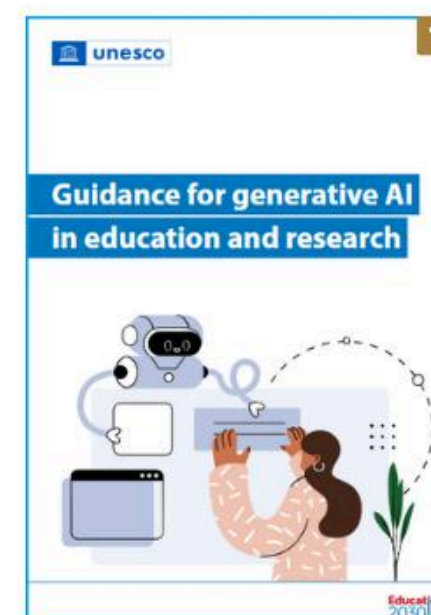
Thursday, November 28, 2024

12:00 - 02:00 PM

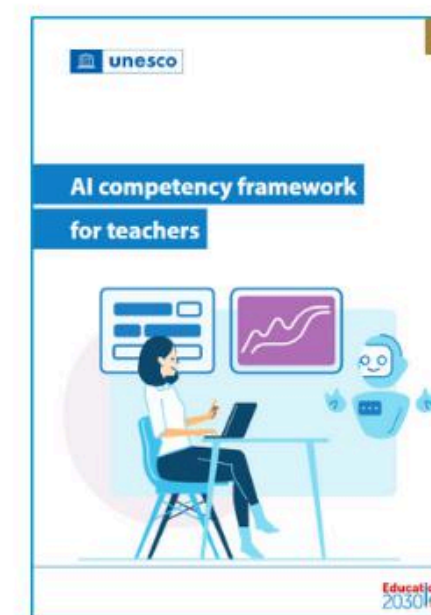
Abu Dhabi Polytechnic, AD Campus, CyberGate Academy, 4th floor

AGENDA

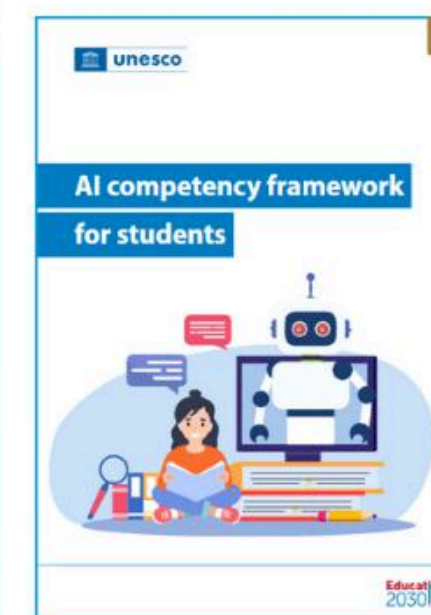
12:00 – 12:10	OPENING AND WELCOME ADDRESS
12:10 – 12:30	UNESCO’s Guidance on Generative AI in Education and Research Dr. Emir Vajzović , Assistant Professor, Department of Information Security Engineering Technology (ISET), Abu Dhabi Polytechnic
12:30 – 12:50	The AI Competency Framework for Teachers Diana Al Haffar , Academic Support Department, Abu Dhabi Polytechnic
12:50 – 01:10	AI Competency Framework for Students and Role of the Library Emina Adilović , Academic Support Department, Abu Dhabi Polytechnic
01:10 – 01:30	Importance of AI Competency Framework and Future Workforce Srdan Babić , CISO & Director of CyberGate Academy, CyberGate



Guidance for generative AI in education and research (2023)
Miao, Fengchun, UNESCO
Holmes, Wayne



AI competency framework for teachers (2024)
Miao, Fengchun, UNESCO
Cukurova, Mutlu



AI competency framework for students (2024)
Miao, Fengchun, UNESCO
Shiohira, Kelly



AI Event Agenda 2024, Abu Dhabi Polytechnic

ACADEMIC LIBRARIES WORLDWIDE

McGill University Library: Developed the "Keeping Up with Artificial Intelligence" workshop series, focusing on AI literacy, ethics, and its application in research. This program aims to demystify AI concepts and foster critical discussions among participants.

Much like the widely used CRAAP test, the **ROBOT** test enables its users to remember which questions to ask when encountering new information about AI technology.

Reliability	How reliable is the information about the AI technology? If it's not produced by the party responsible for the AI, what are the author's credentials? Is there author bias? If it is produced by the party responsible for the AI, how much information are they making available? Is information only partially available due to trade secrets? How biased is the information they produce?
Objective	What is the goal or objective of the use of AI? What is the goal of sharing information about it? To inform? To convince? To find financial support?
Bias	What could create bias in the AI technology? Are there ethical issues associated with this? Are biases or ethical issues acknowledged? By the source of information? By the party responsible for the AI? By its users?
Ownership	Who is the owner or developer of the AI technology? Who is responsible for it? Is it a private company? The government? A think tank or research group? Who has access to it? Who can use it?
Type	Which subtype of AI is it? Is the technology theoretical or applied? What kind of information system does it rely on? Does it rely on human intervention?

Table 1. The ROBOT test components used as criteria when evaluating sources on AI.

1. How will you acknowledge the use of AI?
2. Methods? Results? Discussion?
3. What are the ethical and privacy concerns?
4. If you are dealing with participant data, how will you protect, store, and anonymize it?
5. Do you have permission to use this AI?
6. How will you acknowledge it? Citations?
7. Will your experiment and results be reproducible?
8. Who is this AI available to?
9. Open access versus proprietary?
10. What is the level of oversight and verification?

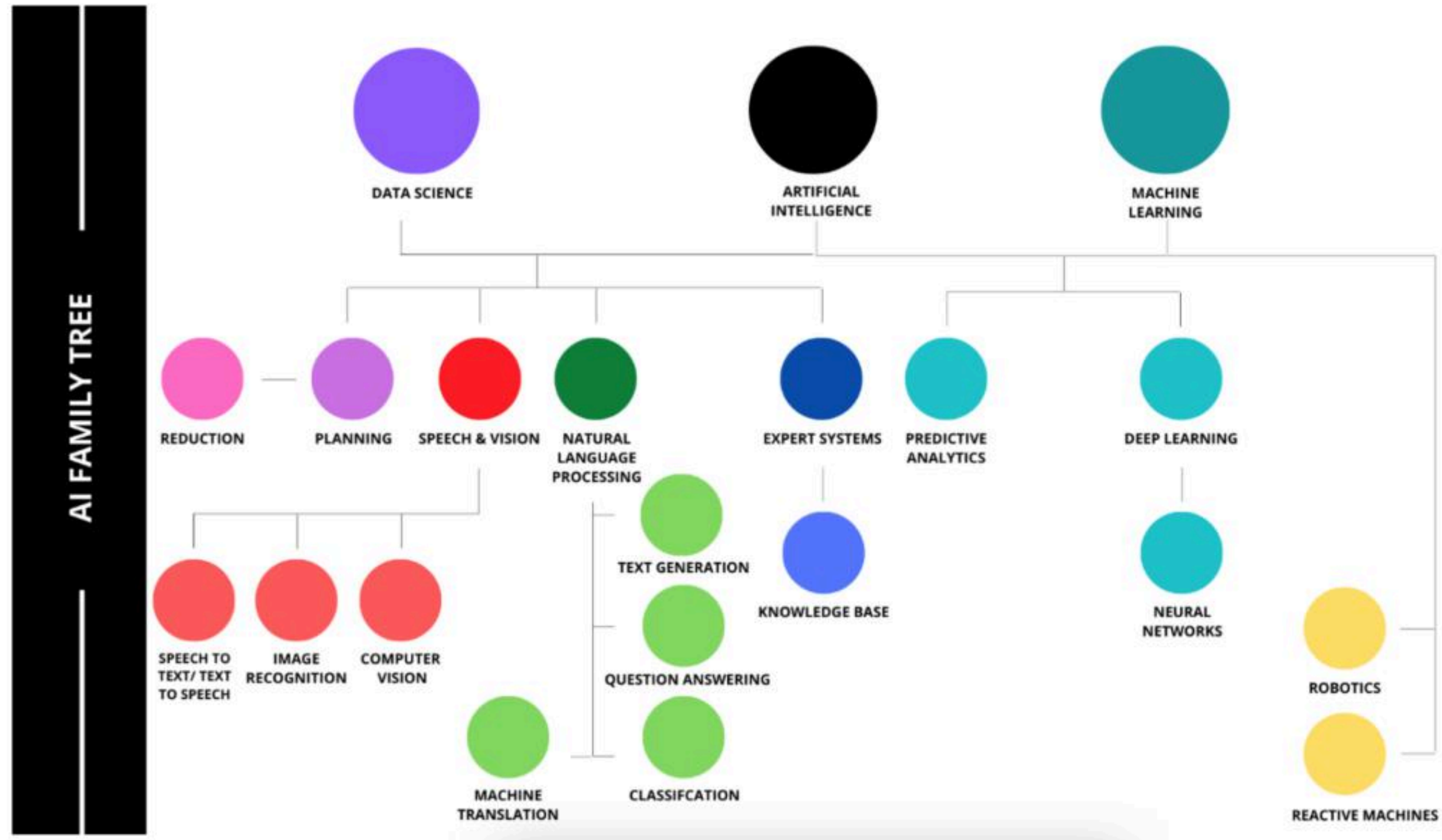


Figure 1. Family tree graphic of the relationship between artificial intelligence and other technologies.

ACADEMIC LIBRARIES WORLDWIDE

Iowa State University Library, USA: Collaborated with ISU Extension and Outreach to present a workshop series titled "Artificial Intelligence, Ethics, and Tools," providing staff with a foundational understanding of AI and its ethical considerations.

In talking with Scott Samuelson, extension specialist and professor of religion and philosophy, the group concluded that the library needed to lay groundwork for thinking about AI. Together with instructional librarian Kate Garretson, Brundy and Samuelson put together a three-part series for library staff that took place in February 2024.



February 2024, Library staff training, Iowa State University Library

ACADEMIC LIBRARIES WORLDWIDE

Norwegian University of Science and Technology (NTNU) University Library, Norway:

Conducted Project Laibro, titled "Artificial Intelligence, Real Library," which explored AI development and its applications within academic libraries.

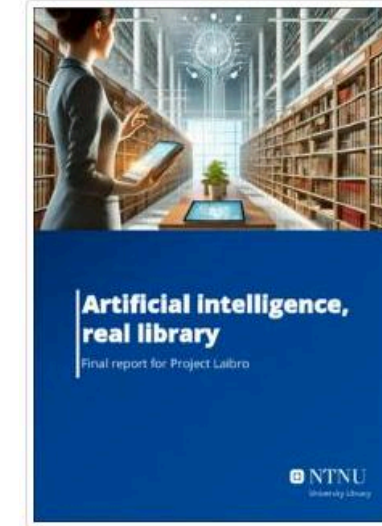
The project aimed to chart the course for how the NTNU University Library should address the opportunities and challenges posed by artificial intelligence. The final report provides insights into AI integration, including experiences, expectations, and competence needs.

Artificial intelligence, real library - Final report for Project Laibro

Nogueira, Leticia Antunes; Hegle, Joost; Kalkvik, Ståle Sand; Aronsen, Katrine; Gaustad, Liv; Rein, Jan Ove

Report

Submitted version



Abstract

Artificial intelligence (AI) has the potential to transform library services and operations. This report presents the results from Project Laibro "Artificial Intelligence, Real Library," which aimed to chart the course for how the NTNU University Library should address the opportunities and challenges posed by artificial intelligence. The goal of the project was for NTNU Library to remain an adaptable and valuable resource for the entire university, as well as an active contributor to the development of the library sector.

The report presents a knowledge foundation and covers topics such as the drivers behind AI development (section 2); AI in academic libraries (section 3); experiences, expectations, and competence needs (section 4); mapping of the library's areas of operation and assessment of the possibilities for using AI in various tasks (section 5), divided into: service improvement, operational efficiency, strategic investments, and structural investments; and finally, the recommendation for the way forward (section 6).

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- Laibro_Vedlegg.pdf (887.2Kb)

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Website of the project within the academic library, Norway

ACADEMIC LIBRARIES WORLDWIDE

University of Pretoria Library, South Africa:

Hosted the International Symposium on Robotics and Artificial Intelligence in Libraries and the Education Sector, bringing together academics and AI enthusiasts to discuss the role of libraries in the digital age.

The event emphasized the importance of digital literacy and the ethical use of AI in educational settings.

'Digital literacy is a must' – VC during UP-hosted symposium on robotics and AI in libraries

University of Pretoria / News / 'Digital literacy is a must' – VC during UP-hosted symposium on robotics and AI in libraries

Posted on November 17, 2021

The University of Pretoria (UP) recently hosted the International Symposium on Robotics and Artificial Intelligence (AI) in Libraries and the Education Sector.

The virtual event was held over two days, 10 and 11 November 2021, and brought together academics, computer scientists and AI enthusiasts from all over the world. Organised by UP's [Department of Library Services](#), the online event attracted about 200 participants and several speakers.

Keynote speaker Professor Tawana Kupe, UP Vice-Chancellor and Principal, introduced attendees to UP Library Services' robot librarian Libby as well as Stevie, the [Faculty of Health Sciences](#)' mobile treatment robot, before directing his attention to the role of libraries.

"In South Africa, libraries have a critical role to play, not only in nurturing and growing our democracy, but also as gateways to participation in society through lifelong learning, and access to information for students, graduates and citizens," he said. "By supporting open-source AI, public institutions can ensure that researchers are able to access powerful systems that are free from corporate bias. At UP, we are passionate about Africa's potential to rise and thrive as a knowledge economy, with our libraries at the centre. From early childhood development to university and beyond, digital literacy is a must."

Professor Arthur Mutambara, former Deputy Prime Minister of Zimbabwe and Executive Director of the University of Johannesburg's Institute for the Future of Knowledge, was a guest speaker at the event, and focused his attention on how universities can play a role in global problem-solving. "The role of the library is to solve global challenges," he said. "Universities should produce a new kind of graduate. We can solve global challenges through innovation, entrepreneurship, and by adapting to the fourth industrial revolution and innovation."

"AI and robotic technologies are increasingly gaining practical implementation in libraries across the world," added Isaiah Michael Omame, author and librarian at the Federal University of Lafia in Nigeria. "The rapid development and supply of AI and robotic technologies, coupled with the increasing demands of digital information services, have necessitated libraries worldwide to reinvent their mode of delivery. Consequently, a number of libraries around the world are fast evolving in tandem with this development. Robots are carrying out real-time library activities. Today, we have smart AI-enabled libraries with voice-activated systems. Robots are becoming our library colleagues!"

Digital literacy is a must news section, November 2021



UP Vice-Chancellor and Principal Professor Tawana Kupe and Libby in the library.

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ACADEMIC LIBRARIES WORLDWIDE

Singapore Management University Libraries:

Explored the use of AI to engage, educate, and empower researchers and students, experimenting with different approaches and tools to use AI for the benefit of their users.

University Librarian at Singapore Management Library, shared how SML is tackling the challenge of AI by telling the story of how she 'engages, educates and empowers' the researchers and students so they can adapt and thrive – experimenting with different approaches and tools to use AI for the benefit of their users by placing them at the heart of her services.



Singapore academic library conference

ACADEMIC LIBRARIES WORLDWIDE

University of Groningen, Netherlands: The university library offers a workshop series called "AI for Instructors," designed for educators to integrate AI tools into their teaching practices.

These workshops provide hands-on experience with AI platforms, aiming to enhance instructional design and student engagement.

Target audience	Instructors who would like support on how to use AI in their educational activities
Dates	Workshop 1: Tuesday 28 January 2025 (1.00-4.00 p.m.) Workshop 2: Tuesday 11 February 2025 (1.00-4.00 p.m.) You need to be present during both workshops.
Location	Physical workshops at the Zernike Campus; Asynchronous work is available in Brightspace
Study load	Asynchronous online activities via Brightspace: 30 minutes pre-work before the first session 3-5 hours of "homework" between the sessions Synchronous session: 6 hours
Entry knowledge	Instructors who already have a basic understanding about what AI is (and is not) and how it functions. Read more
Course fee	Free of charge
Main Language	English
Location	Zernike Campus

Schedule of an AI workshop within the academic library

CONCLUSION

- **Clearly Define Goals:** Focus on AI solutions that directly address the needs of students and researchers.
- **Support Library Staff:** Invest in ongoing professional development to bridge skill gaps and promote effective AI integration.
- **Emphasize Collaboration:** Partner with faculty, technology experts, and other institutions to share resources and expertise.
- **Maintain Balance:** Strive for a sustainable balance between adopting new technologies and preserving core library values and human-centric services.
- **Periodic Evaluation:** Regularly reassess priorities and processes to ensure alignment with institutional objectives.

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THANK YOU FOR YOUR ATTENTION!