

CONCERT x Chem Library x ACS 「AI時代學術圖書館的發展機遇」研討會

人工智慧於學術圖書館之角色功能與服務應用

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地點：財團法人張榮發基金會國際會議中心10樓 1002會議室

時間：2023年9月21日

研討會主辦：國研院科政中心CONCERT、國科會圖書服務計畫化學中心總圖書室
Chem Library、全球最大非營利科學組織ACS美國化學學會

研討會協辦：iGroup Taiwan



大綱

人工智慧發展背景與研究領域分支

圖書館與人工智慧相關文獻與專書

館員對於科技發展與人工智慧之認知態度

圖書館推展人工智慧之角色—倡導、教育、應用

學術圖書館應用人工智慧技術之案例與對策

大綱

人工智慧發展背景與研究領域分支

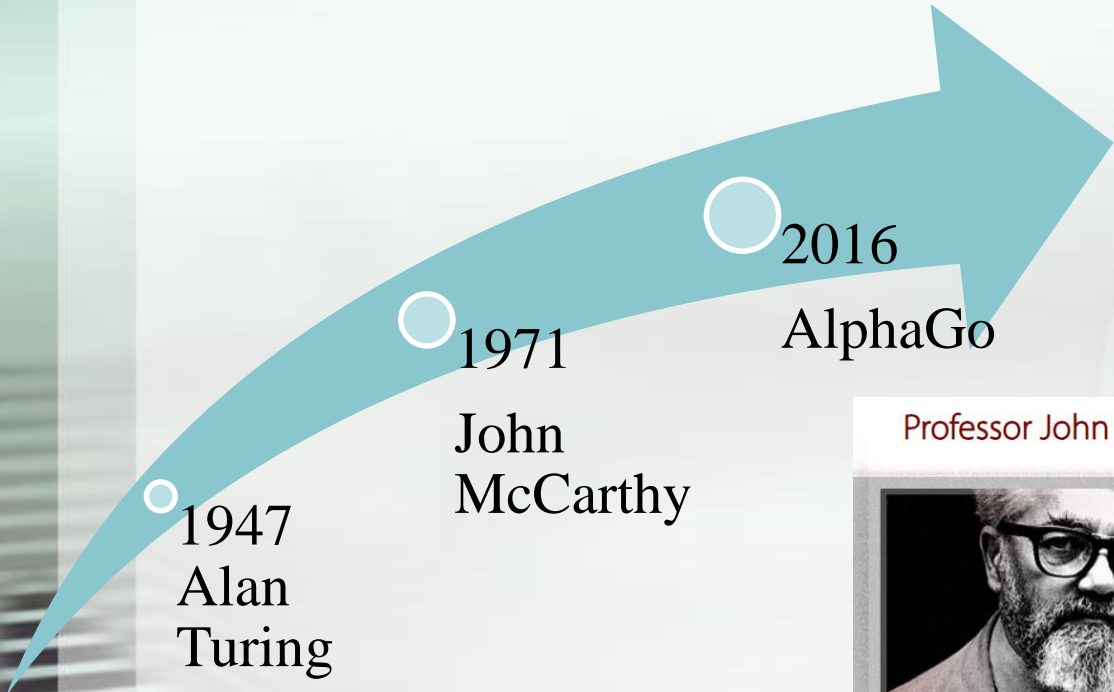
圖書館與人工智慧相關文獻與專書

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人工智慧發展之重要人物與事件



Professor John McCarthy

Father of AI



[Home](#) | [Contributions and Impact](#) | [Computing Science](#) | [Artificial Intelligence](#) | [Social Commentary](#) | [General Information](#)

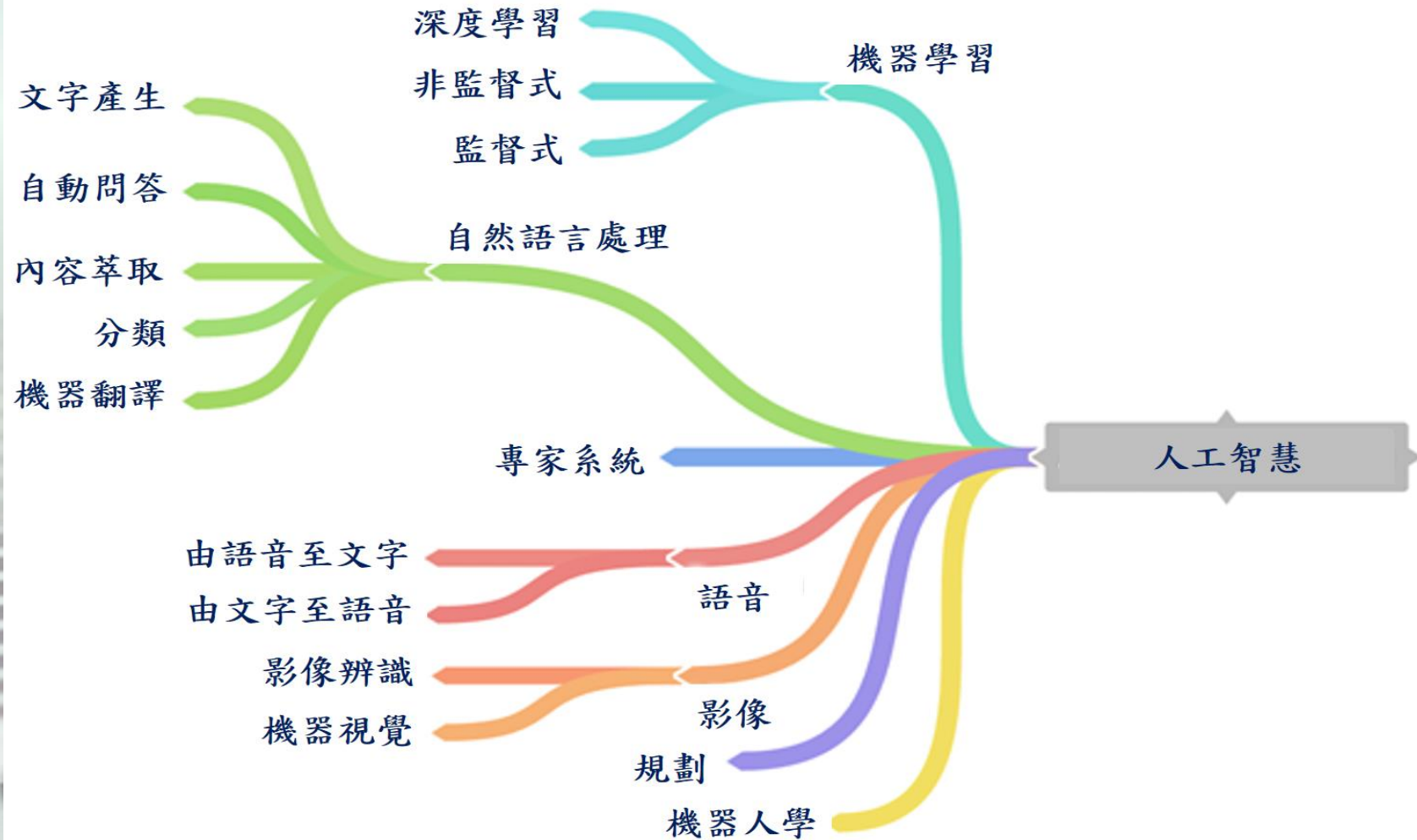
Contributions and Impact

John paved the way for some of the world's transformative technologies: programming languages, the Internet, the web, and robots. He conceived and developed time-sharing, invented the first programming language for symbolic computation LISP, and coined the term "Artificial Intelligence". His key contributions were in human-level AI and commonsense reasoning. To discover more, search his scientific articles.

"I don't see that human intelligence is something that humans can never understand."

~ John McCarthy, March 1989

人工智慧研究領域分支圖



資料來源： Kulkarni, A. (2016). Jump start to artificial intelligence.

<https://hackernoon.com/jump-start-to-artificial-intelligence-f6eb30d624ec>

人工智慧掌握的是「暗知識」

既無法表達
也無法感受
的暗知識

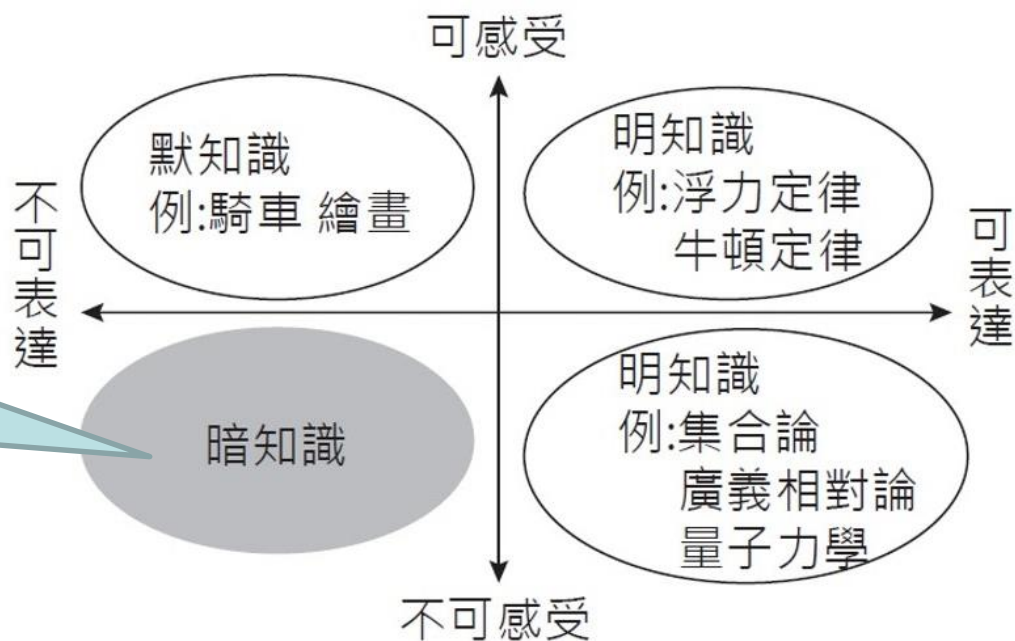
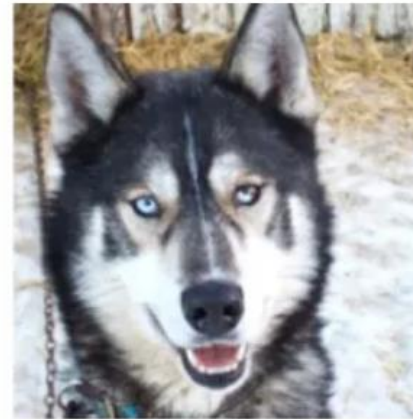


圖 1.3 知識的分類

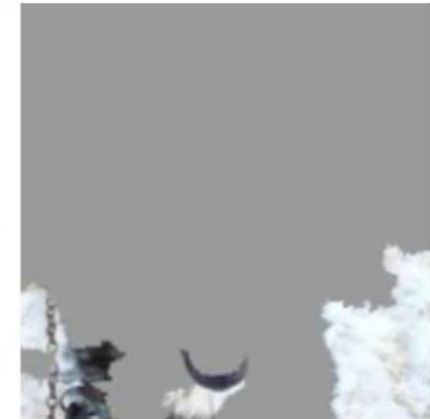
深度學習看到了什麼？



狼（左）與哈士奇（右）。圖片來源：<https://pxhere.com/>



Husky classify as wolf



Explanations

哈士奇被判別為狼(左)，解釋誤判原因(右)。圖片來源：“Why Should I Trust You?” Explaining the Predictions of Any Classifier — Ribeiro, Singh, Guestrin (2016)

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國內圖書館與人工智慧相關文獻

Lee, Geoffrey J.
(1988) 人工智慧在圖書館的應用與意義 (陳妙智譯)。國立中央圖書館館刊

Lancaster, F.W.
(1996) Artificial Intelligence, Expert Systems and the Digital Library. 資訊傳播與圖書館學

楊德倫、曾元顯 (2020)。建置與評估文字自動生成的情感對話系統。教育資料與圖書館學

吳慧中
(1992) 人工智慧在圖書館的應用。書府

蔡明峰、林志敏、沈薇薇、賴忠勤
(2017) 機器人應用於圖書館服務之可行性初探。國家圖書館館刊

陳嘉浩、官長治
(2022) Sentence BERT 語意分析模型簡介。

- 黃元鶴 (2020)。人工智慧於圖書館之應用、倡議與育成：歐美加圖書館個案發展芻議。國家圖書館館刊，109(2)，1-20。
- 黃元鶴 (2022)。人工智慧技術應用與圖書館服務。臺灣出版與閱讀，111(4)，12-18。



國外圖書館與教育界對於人工智慧的倡議

2017

- 英國的大專校院圖書館學會
(The Society of College,
National and University
Libraries, SCONUL)
- 建議圖書館界應積極瞭解與
推廣人工智慧

2017

- 《NMC地平線報告：2017年
高等教育版》
- 人工智慧列為未來四至五年
的重點採用科技，有潛力來
發展線上學習、適應式學習
軟體與研究

美加地區之大學圖書館導入人工智慧技術的環境掃描報告 [2019年]

- 檢視學術圖書館導入人工智慧技術的狀況
- 收集15校加拿大的大學圖書館與12校美國的大學圖書館
- 研究結果
 - 無任何一所大學圖書館的策略規畫包含人工智慧相關內容
 - 約81.5%學校提供人工智慧研發中心（AI hub），
 - 僅66.7%大學中，擁有具人工智慧專長的知名研究人員
 - 僅18.5%大學圖書館提供人工智慧相關程式與服務
 - 導入人工智慧技術於圖書館相關服務仍屬少數。



ACRL PUBLICATIONS IN LIBRARIANSHIP NO. 78

The Rise of AI

Implications and Applications
of Artificial Intelligence
in Academic Libraries

edited by
**Sandy Hervieux and
Amanda Wheatley**

Association of College and Research Libraries
A division of the American Library Association

Chicago, Illinois 2022

PART I: USER SERVICES

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The 99 AI Challenge: Empowering a University Community through an Open Learning Pilot
Carey Toane, Lise Doucette, Paulina Rousseau, Michael Serafin, Michelle Spence, and Christina Kim
- 15 Chapter 2
URI Libraries' AI Lab—Evolving to Meet the Needs of Students and Research Communities
Harrison Dekker, Angelica G. Ferria, and Indrani Mandal
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Artificial Intelligence, Machine Translation, and Academic Libraries: Improving Machine Translation Literacy on Campus
Lynne Bowker, Maria Kalsatos, Amy Ruskin, and Jairo Buitrago Ciro
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Incubating AI: The Collaboratory at Ryerson University Library
Fangmin Wang, Aaron Tucker, and Jae Duk Seo
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Separating Artificial Intelligence from Science Fiction: Creating an Academic Library Workshop Series on AI Literacy
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Jonathan Scherger, Juliana Espinosa, Autumn Edwards, Chad Edwards, Bryan Abendschein, and Patricia Vander Meer

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PART III: TOWARD FUTURE APPLICATIONS

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Ethical Implications of Implicit Bias in AI: Impact for Academic Libraries
Kim Paula Nayyer and Marcelo Rodriguez
- 175 Chapter 14
Machine Information Behaviour
Michael Ridley



近年更多人工智慧與圖書館相關文獻

- Cox, A. M., & Mazumdar, S. (2022). Defining artificial intelligence for librarians. *Journal of Librarianship and Information Science*, 1-11, <https://doi.org/10.1177/09610006221142029>.
- Cox, A. (2023). How artificial intelligence might change academic library work: Applying the competencies literature and the theory of the professions. *Journal of the Association for Information Science and Technology*, 74(3), 367-380.
- Cox, C., & Tzoc, E. (2023). ChatGPT: Implications for academic libraries. *College & Research Libraries News*, 84(3), 99-102.
- Jha, S. K. (2023). Application of artificial intelligence in libraries and information centers services: prospects and challenges. *Library Hi Tech News*, 40(7), 1-5.
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館員對於科技的態度

	Explanation	Skills needed	Form of jurisdictional settlement
Expert	Develop technologies, learn to code, and so forth	Computational thinking	Subordination to IT
Customizer	Adapt technologies to local needs	A weaker form of computational thinking	Split with IT
Commissioner	Commission technologies based on an understanding of strategic needs	Strategy, manage commission process, negotiation	Full or hybrid (with the institutional logic of management)
Interpreter/ translator	Act as bridge between users and technologies. Understands how to speak in both languages	Technical language and possibilities	Advisory
Follower	Technology is inevitable—Just go with it. Late adopter	Strategy, manage commission process, negotiation	Subordination to IT
Luddite	Anti-technology because of link to commercialization/managerialism and loss of professional freedom	None	Full
Avoider	Anti-technology traditionalist	None	Full

資料來源：Cox, A. (2023). How artificial intelligence might change academic library work: Applying the competencies literature and the theory of the professions. *Journal of the Association for Information Science and Technology*, 74(3), 371, Table 1.

圖書館員擔心人工智慧可能帶來的風險

1. 擔心人工智慧技術引進將取代館員的業務。
2. 因為人工智慧帶來高效能，圖書館與社區的連結所帶來的人文價值，將減損其受重視的程度。
3. 人工智慧擴大了不平等、偏見、與歧視等議題，而且幫助傳播錯誤資訊，它也被操縱來推廣偏見與假訊息。
4. 人工智慧危害了資料隱私，而隱私權是圖書館所重視的倫理議題

資料來源：Ex Libris (n.d.) Artificial Intelligence in the Library: Advantages, Challenges and Tradition. An Ex Libris Whitepaper. Retrieved May 4, 2020,

<https://cdn2.hubspot.net/hubfs/2909474/Ex%20Libris%20Artificial%20Intelligence%20White%20Paper.pdf>.

圖書館導入人工智慧是目的導向 而非技術導向

a library's AI program must be **purpose driven** rather than technology driven.

資料來源：Coleman, C.N. (2018), “Library AI initiative”, available at:
<https://library.stanford.edu/projects/artificial-intelligence/about> (accessed 4 May 2020)

臺灣大專校院圖書館館員對於人工智慧於圖書館應用的認同程度與導入阻礙度的看法

Items	Level of agreement		Level of impediment to implementing AI		Z
	Mean	SD	Mean	SD	
Lack of human resources to promote AI in libraries	4.00	0.810	4.10	0.913	-2.83**
Lack of technological resources to promote AI in libraries	4.05	0.836	4.21	0.858	-4.73***
Lack of financial resources to promote AI in libraries	4.22	0.910	4.36	0.870	-3.80***
Librarians are concerned about job losses as a result of being replaced by AI	2.74	0.890	2.85	1.001	-2.97**
The library's connection to its community and human characteristics will be devalued because of AI efficiency	2.92	0.912	2.89	0.979	0.75
AI would magnify injustices, such as inequality, bias, and discrimination, and help propagate misinformation	3.14	0.818	3.05	0.933	2.58*
AI endangers data privacy, and privacy is vital in libraries	3.35	0.800	3.25	0.932	3.41**

Note(s): * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

資料來源：Huang, Y.H. (2022) Exploring the implementation of artificial intelligence applications among academic libraries in Taiwan. *Library Hi Tech*, Vol. ahead-of-print No. ahead-of-print.

<https://doi.org/10.1108/LHT-03-2022-0159>

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圖書館推展人工智慧之角色



AI Lab (<https://web.uri.edu/ai/>)

- 主辦機構：美國羅德島大學圖書館
- 提供跨學科領域的學生、學者研發人工智慧相關應用的場域
- 可做為人工智慧相關課程學習的教室，學生可運用其軟硬體設備來實作課程所學
- 推廣人工智慧等相關研習會議的場所

AI Lab

Interdisciplinary Learning on Artificial Intelligence

URI > Libraries > AI Lab

Equipment

Resources

Press

Contact

Inviting Artificial Intelligence Exploration



PAIR (Projects in Artificial Intelligence Registry) (<https://pair.libraries.ou.edu/>)

- 主辦機構：美國俄克拉荷馬大學圖書館
- 人工智慧相關計畫的登記站，希望能做為可查檢全球人工智慧計畫的名錄，促成跨機構的人工智慧合作研究計畫。



LOGIN / RE

Projects in Artificial Intelligence Registry (PAIR)

A REGISTRY FOR AI PROJECTS IN HIGHER ED

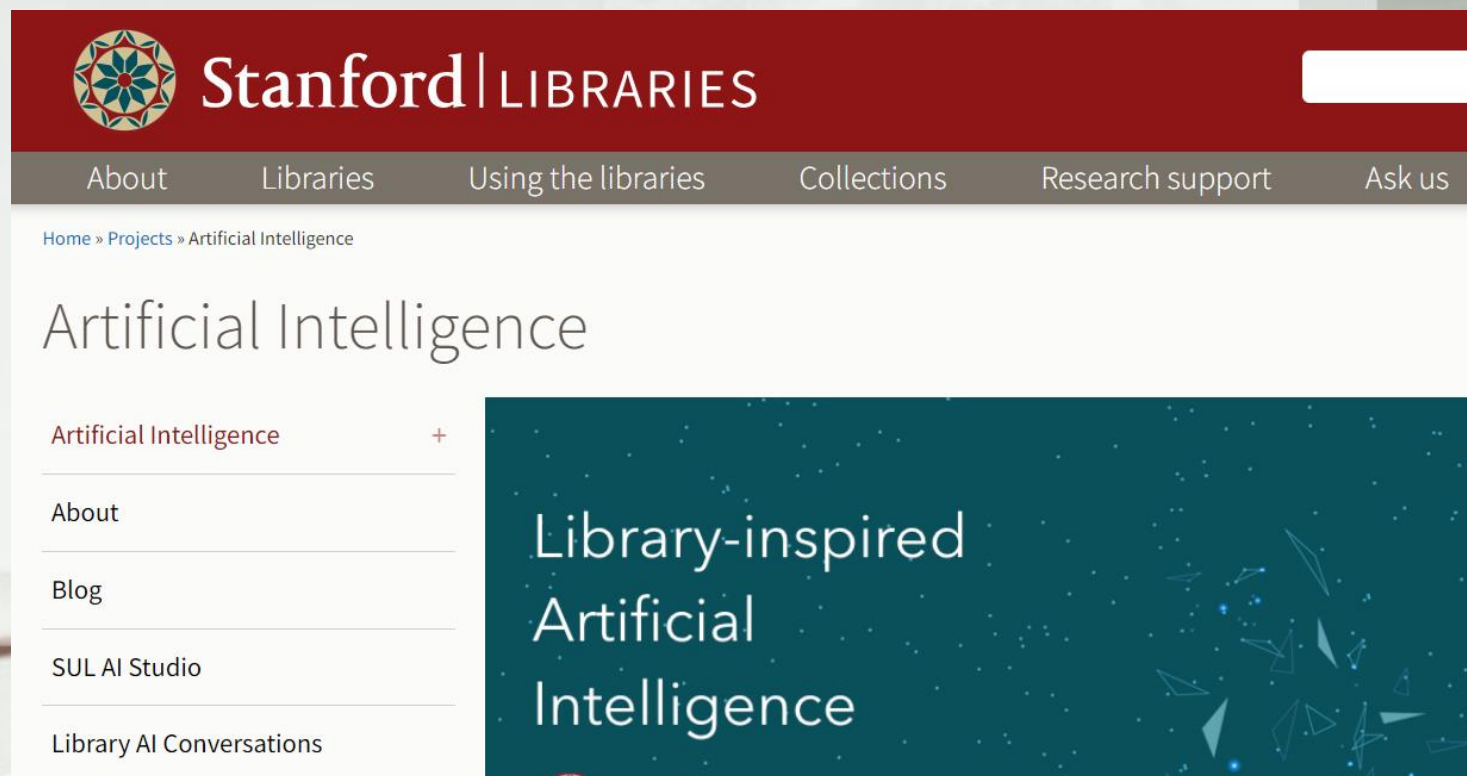
HOME SEARCH ABOUT NEWS CONTACT

PAIR is a global directory of AI projects in higher education.

SUL AI Studio

(<https://library.stanford.edu/projects/artificial-intelligence>)

- 主辦機構：美國史丹福大學圖書館
- 館員自行發想相關研究主題，為提升豐富館藏資源之發掘與應用，以利研究人員便於查檢、分析與應用館藏資訊。



The screenshot displays the Stanford Libraries website interface. At the top, the Stanford Libraries logo is visible, featuring a red and white geometric design. Below the logo, a navigation bar includes links for "About", "Libraries", "Using the libraries", "Collections", "Research support", and "Ask us". The main content area shows the breadcrumb "Home > Projects > Artificial Intelligence" and the title "Artificial Intelligence". A sidebar on the left lists "Artificial Intelligence" with a plus sign, "About", "Blog", "SUL AI Studio", and "Library AI Conversations". A large blue banner on the right side of the page reads "Library-inspired Artificial Intelligence" with a background of white geometric shapes and a starry pattern.

The 99 AI Challenge

(<https://onesearch.library.utoronto.ca/ai-challenge>)

- 主辦機構：加拿大多倫多大學圖書館
- 無科技背景的99位教職員生來參與人工智慧挑戰，參與者組隊來討論人工智慧相關議題，包含健康、教育、隱私權、機器人、認知科學與心理學、藝術等各式主題



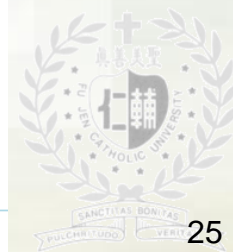
UNIVERSITY OF TORONTO
LIBRARIES

HELP WITH ... ▾

FIND AND BORROW ▾

VISIT US ▾

The 99 AI Challenge



AI for librarians

(<https://www.aiforlibrarians.com/>)

- 芬蘭 Pirjo Kangas (<https://www.linkedin.com/in/pirjokangas/>)
曾任職 Humak University of Applied Sciences 的資訊專家
(Information specialist) 超過 10 年，目前是 Lingsoft Language
Services Oy 公司之 Ellibs 電子書店客戶經理 (account manager)

AI for librarians

Pirjo Kangas, the author of the site AI for librarians, was a Fulbright scholar at the University of Maryland between September 2019 and December 2019. During the Fulbright, Pirjo worked with a professional project investigating artificial intelligence (AI) use cases in libraries.

AI for librarians

(<https://www.aiforlibrarians.com/>) (續)

- 建立此網站來探索三大問題：
 - 第一、圖書館如何應用人工智慧？
 - 第二、圖書館員應該知曉人工智慧哪些相關知識？
 - 第三、提升大眾對於人工智慧的瞭解，圖書館員應扮演何種角色？

因此，該網站除了介紹人工智慧相關背景知識與線上課程之外，收錄了全世界人工智慧於圖書館的應用案例。

圖書館推展人工智慧之角色



人工智慧技術應用於圖書館各項工作之 使用案例—區分以下四群



人工智慧技術應用於圖書館之使用案例 — 資源採訪、分類編目與館藏管理

- 挪威國家圖書館利用開源軟體來執行機器學習與**杜威分類法**計畫
(<https://library.ifla.org/id/eprint/2216/1/115-brygfjeld-en.pdf>)
- 芬蘭國家圖書館之**自動主題索引與分類**計畫 Annif (<http://annif.org/>)
- 美國衛斯理安大學 (Wesleyan University) 圖書館曾應用自動分類的技術，訓練機器學習與預測該**淘汰的館藏**資料

人工智慧技術應用於圖書館之使用案例

—讀者服務與參考諮詢

- 芬蘭赫爾新基中央圖書館開發一款手機應用程式，該館將此**手機虛擬資訊助理**命名為Obotti (<https://library.ifla.org/id/eprint/2536/1/114-hammais-en.pdf>)應用資料探勘、自然語言處理，以及Sierra API等技術，可與使用者互動而推薦給該讀者之最適合的館藏資源
- 臺灣的國立公共資訊圖書館推出多項**智慧服務**，包含iLib Guider APP尋書導引APP（以行動導航概念開放導引找書）、智慧機器人（運書機器人波比、互動式機器人NAO、導覽型機器人酷比），以及智能語音便利服務等 <https://www.nlpi.edu.tw/ReaderService/SmartService>

人工智慧技術應用於圖書館之使用案例 — 資訊檢索與資源探索

- 日本近畿大學曾分析讀者在臉書、推特等社群媒體的貼文，結合該校圖書館的7萬本書評，**推薦讀者適合閱讀的圖書**
- 結合人工智慧的自然語言處理技術，目前可用「**以文找文**」的方式查找文獻。IRIS.AI (<https://iris.ai/>) 是一家科技資訊服務公司，可自動生成文獻摘要、可藉由核心文獻查找類似主題文獻與相關資料、可自動提取文件中的關鍵資訊至客製化的表單中、可定期依相同的檢索策略自動查找文件等。

人工智慧技術應用於圖書館之使用案例

—圖書館行政作業管理

- 龍華科技大學圖書館應用人臉辨識系統做為入館門禁管理的輔助工具，指靜脈辨識系統輔助做為借書與研究討論室借用的管理。
- 日本筑波市立中央圖書館採用機器人動力服（robot suit），館員穿戴在身上，可分擔圖書搬運的重量。運輸機器人，當館員在館中收集放置於圖書閱後暫放區之書時，可自動跟隨館員，以減輕館員搬運圖書的負荷。

人工智慧技術應用於圖書館之使用案例

— 圖書館行政作業管理

機器人動力服 (robot suit)

- 資料來源：Harada, T. (2019), “Robotics and artificial intelligence technology in Japanese libraries”, paper presented at the 2019 World Library and Information Congress: 85th IFLA General Conference and Assembly-Information Technology Satellite Meeting: Robots in libraries: challenge or opportunity? 21-22 August, Berlin, Germany, available at: <http://library.ifla.org/id/eprint/2695/1/s08-2019-harada-en.pdf> (accessed 25 March 2022).



人工智慧技術應用於圖書館之使用案例

- 赫爾辛基市立圖書館之基於人工智慧資料管理系統（Helsinki City Library's AI-based intelligent material management system）→ 2019年5月，正式啟用此新式**浮動館藏（floating collection）**管理系統
- 此系統**依據讀者借還記錄來決定館藏資料的正確位置**，大約要花上1年半至2年來依據每館營運數據來建構專屬該館的資料流通模式。
- 書或資料不再依字母排序，而是**依讀者需求來客製化其個人取書箱的書或資料**。
- 此智慧型資料管理系統（Intelligent Material Management System, IMMS）是由Lyngsoe系統公司與丹麥的奧胡斯及哥本哈根公共圖書館共同開發，希望能節省館員的時間，而能將重點放在顧客服務上。

大綱

人工智慧發展背景與研究領域分支

圖書館與人工智慧相關文獻與專書

館員對於科技發展與人工智慧之認知態度

圖書館推展人工智慧之角色—倡導、教育、應用

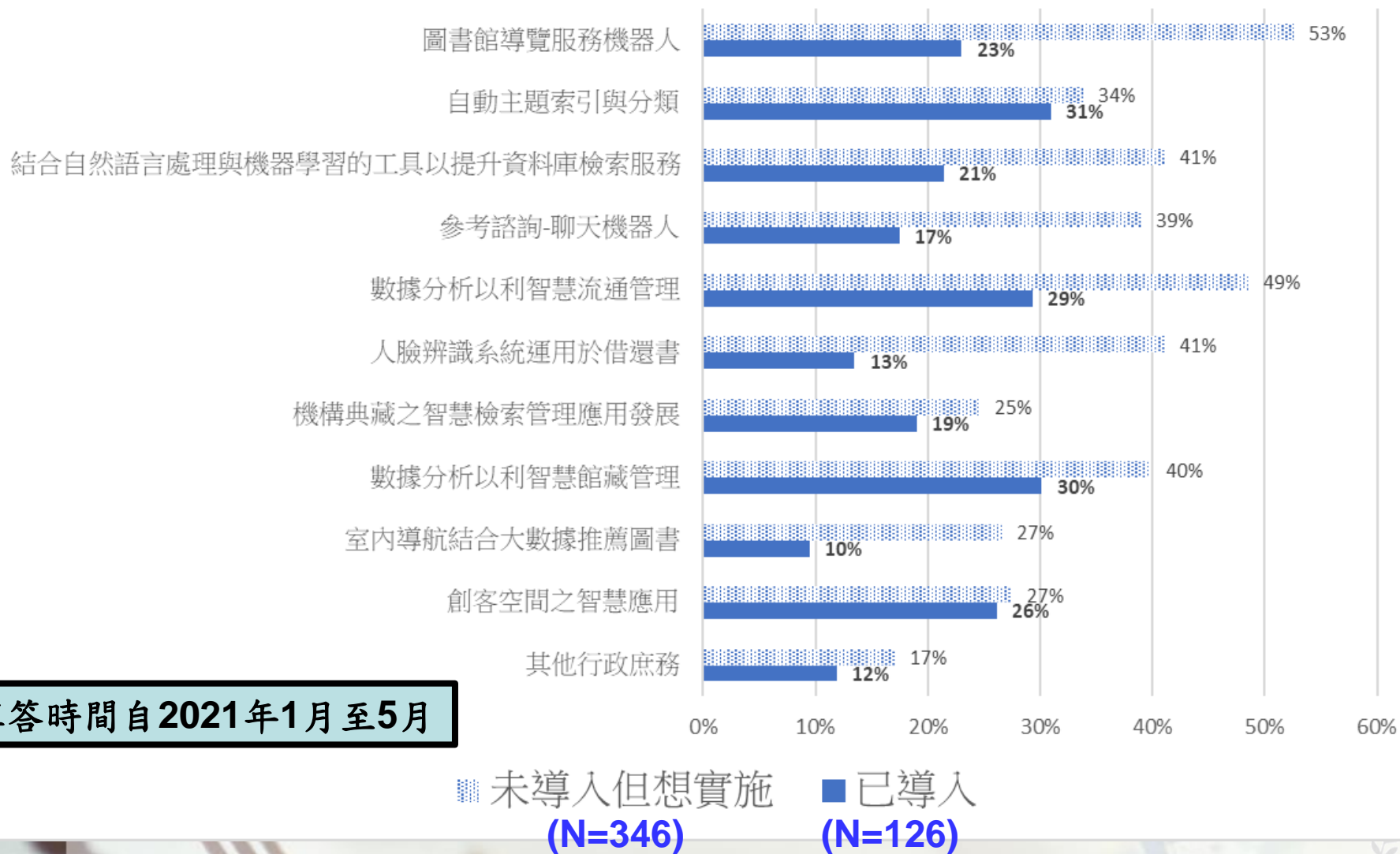
學術圖書館應用人工智慧技術之案例與對策

學術圖書館之人工智慧應用

(1) AI applications	(2) Skills needed	(3) Jurisdiction/hybridity
1 Everyday web and mobile search	Understanding of how it works/training (of users)	Threat via smart technology simply replacing need to access library for information yet strengthens the need for information literacy and so educational jurisdiction
2 In existing library systems, for example, search interfaces	Training users	Strengthens the access jurisdiction
3 For knowledge discovery, such as licensing an AI product, offering collections as data, or supporting communities of AI users	See Table 3 for the range of skills required for 11 different options	See Table 3 for the implications for jurisdiction
4 Conversational agents and voice assistants	Building knowledge base, skills for creating conversational agent (coding)	Limited impact to date in practice but could substitute for professional roles in the name of management efficiency
5 In user management—for example, learning analytics, library analytics, sentiment analysis	Data analysis, data science	Could strengthen an educational jurisdiction by giving more data on information need, but could also be seen as strengthening management logics
6 Robotic process automation—for example, applied to back end systems	Analysis of systems, coding	Makes some tasks more efficient, but unlikely to reduce professional work
7 Smart library	Sensor data analysis	Reinforces the access jurisdiction by improving understanding of use but could be seen as subordination to IT

資料來源：Cox, A. (2023). How artificial intelligence might change academic library work: Applying the competencies literature and the theory of the professions. *Journal of the Association for Information Science and Technology*, 74(3), 373, Table 2.

臺灣大專校院圖書館之人工智慧應用導入現況



填答時間自2021年1月至5月

資料來源：Huang, Y.H. (2022) Exploring the implementation of artificial intelligence applications among academic libraries in Taiwan. *Library Hi Tech*, Vol. ahead-of-print No. ahead-of-print.

<https://doi.org/10.1108/LHT-03-2022-0159>

臺灣大專校院圖書館之人工智慧應用導入關鍵因素——已導入與未導入館之館員觀點

Key factors	Libraries that have already implemented AI ($n = 32$)		Libraries that have not yet implemented AI ($n = 149$)	
	n	%	n	%
Funding/cost associated with implementation	8	25	59	40
Human resources	4	13	23	15
Librarians' willingness and experience	3	9	18	12
Support from managers	1	3	21	14
Support and planning of universities	2	6	4	3
Labor/time/energy saving	6	19	28	19
Maturity and reliability of AI applications	3	9	21	14
Acceptance by users (attractiveness, function, convenience)	3	9	12	8
Innovative services/alignment with technological trends	2	6	10	7
Increasing library visitors and use	2	6	12	8
Incorporating library core values	1	3	2	1
Managerial concerns*	3	9	5	3
Information security/privacy concerns	5	15	2	1

Note(s): *Those whose library had implemented AI commented on low usage and ineffective outcomes. Those whose library had not yet implemented AI commented on the effectiveness of problem solving, not having to manage workers' emotional problems, and the simplification of tasks

資料來源：Huang, Y.H. (2022) Exploring the implementation of artificial intelligence applications among academic libraries in Taiwan. *Library Hi Tech*, Vol. ahead-of-print No. ahead-of-print.

<https://doi.org/10.1108/LHT-03-2022-0159>

臺灣大專校院圖書館於人工智慧倡導與教育等議題之 認同與實踐程度之差異

Items	Support		Likelihood of implementation		Z
	Mean	SD	Mean	SD	
Librarians could educate people on AI and help to promote AI literacy	3.97	0.701	3.91	0.814	2.09*
AI-related activities and competitions could be held by the library	3.55	0.858	3.50	0.926	1.89
Librarians could discuss AI applications to facilitate an understanding of AI	3.89	0.710	3.81	0.837	2.75**
Libraries could conduct AI-related research projects and become an AI research repository	3.55	0.846	3.45	0.978	3.13**
Libraries could be the focus of interdisciplinary activities, providing tangible and intangible classrooms for interdisciplinary AI-related courses on campus	3.75	0.751	3.57 ↓	0.931	6.09***
Libraries could be the focus of interdisciplinary activities, providing tangible and intangible laboratories for interdisciplinary AI-related research projects, becoming an incubator on campus	3.54	0.880	3.40 ↓	0.994	4.60***

Note(s): * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

資料來源：Huang, Y.H. (2022) Exploring the implementation of artificial intelligence applications among academic libraries in Taiwan. *Library Hi Tech*, Vol. ahead-of-print No. ahead-of-print.

<https://doi.org/10.1108/LHT-03-2022-0159>



ChatGPT 對學術圖書館的影響

- Research
- Reference
- Teaching
- Textbooks
- Information literacy and digital literacy
- Writing and creation
- Plagiarism
- Copyright
- Productivity
- Equity and inclusion

資料來源：Cox, C & Tzoc, E. (2023). ChatGPT Implications for academic libraries. *ACRL TechConnect*. <https://crln.acrl.org/index.php/crlnews/article/view/25821/33770>

ChatGPT推薦大學生情緒療癒書籍



推薦大學生情緒療癒書籍



以下是一些針對大學生情緒療癒和心理健康的推薦書籍。這些書籍涵蓋了壓力管理、情緒調節、自我關懷等主題，有助於提升心理健康和情緒管理能力。



1. 《活在當下的力量：正念的奇蹟》 (**The Miracle of Mindfulness: An Introduction to the Practice of Meditation**) - 泰雄·納·哈·金
這本書介紹了正念冥想的概念，幫助讀者學會如何活在當下，減少焦慮和壓力。
2. 《不完美的我們》 (**The Gifts of Imperfection: Let Go of Who You Think You're Supposed to Be and Embrace Who You Are**) - 布勞內·布朗
這本書探討了自我接受和自我價值的概念，幫助讀者擺脫完美主義和自我批評。
3. 《情緒的教育》 (**Emotional Intelligence: Why It Can Matter More Than IQ**) - 丹尼爾·戈爾曼
這本書探討情緒智商的重要性，並提供了提升情緒智商的方法和技巧。
4. 《放下你的憂鬱》 (**The Mindful Way Through Depression: Freeing Yourself from Chronic Unhappiness**) - 馬克·威廉斯、約翰·泰勒、茱麗亞·吉爾巴特、托馬斯·佛爾
這本書以正念為基礎，介紹了應對憂鬱和負面情緒的方法，幫助讀者走出情緒低谷。

ChatGPT推薦大學生情緒療癒書籍（續）

2. 《不完美的我們》 (The Gifts of Imperfection: Let Go of Who You Think You're Supposed to Be and Embrace Who You Are) - 布芮尼·布朗

這本書探討了自我接受和自我價值的概念，幫助讀者擺脫完美主義和自我批評。

- 博客來書店查證
 - 英文題名正確
 - 中文譯名不正確

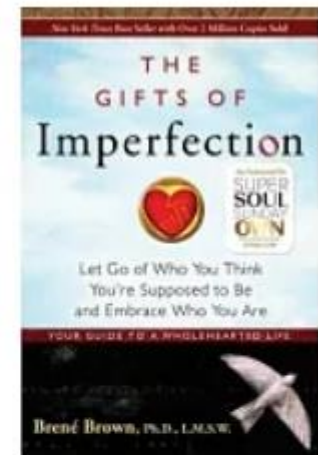


不完美的禮物：放下「應該」的你，擁抱真實的自己 (電子書)

中文電子書

布芮尼·布朗 田育慈

優惠價：88 折，184 元



The Gifts of Imperfection: Let Go of Who You Think You're Supposed to Be and Embrace Who You Are


外文書

Brene Brown

優惠價：644 元

ChatGPT writes plausible text, not correct text

ChatGPT writes **plausible** text, not correct text



[Sara Brumfield](#), a software engineer, library and digital humanities consultant and co-creator of FromThePage, a crowdsourcing platform where libraries, archives, and museums share documents for transcription.

ChatGPT for Libraries and Archives

資料來源：Brumfield, S. (2023). ChatGPT for Libraries and Archives.

<https://www.youtube.com/watch?v=VCl1bOo4Qg>

ChatGPT移花接木 自動生成看似合理的參考書目資訊

- 請提供資訊與知識相關定義的參考文獻，ChatGPT回應其中一項書目資訊如下：

Wiig, K. M. (1993). **Knowledge management: An evolving discipline.** *Long Range Planning*, 26(5), 53-61.

- 在期刊的官網與ScienceDirect資料庫查證後，正確篇名、年代、卷期、頁數等資訊如下：

Wiig, K. M. (1997). **Integrating intellectual capital and knowledge management.** *Long range planning*, 30(3), 399-405.

學者Wiig從未寫過任何一篇文章題名為**Knowledge management: An evolving discipline.**

ChatGPT之優點與缺點



chatGPT 優點與缺點



ChatGPT (或稱為 GPT-3) 是一種基於人工智能的語言模型，具有許多優點和一些限制。以下是 ChatGPT 的優點和缺點：

優點：

1. **自然語言生成**：ChatGPT 可以生成自然流暢的文字，能夠回答問題、提供解釋、進行對話等，使得和它的互動更加人性化。
2. **廣泛應用**：ChatGPT 可以用於多種應用，如客戶服務、文本生成、自動回覆、語言翻譯等，為許多領域提供了效率和便利。
3. **無限主題**：ChatGPT 可以在許多主題上進行對話，無論是科學、文化、歷史還是日常生活，它都能提供相關的信息和見解。
4. **大規模知識庫**：ChatGPT 在訓練過程中接觸了大量的網絡文本，使其具有廣泛的知識，可以回答許多問題。
5. **快速回應**：ChatGPT 可以即時生成回應，對於需要快速答案或即時交流的情況非常有用。



ChatGPT之優點與缺點（續）

缺點：

1. **缺乏審核：** ChatGPT 生成的內容未經過人工審查，可能會生成不準確、誤導性或不恰當的信息，尤其是對於敏感主題。
2. **缺乏上下文理解：** ChatGPT 缺乏深入理解上下文的能力，可能導致回答不完整或不準確，特別是在對話進行多輪的情況下。
3. **生成虛假信息：** 由於它是基於訓練數據生成的，ChatGPT 可能會不小心生成虛假信息，這對於需要準確性的場景可能是一個問題。
4. **缺乏情感理解：** ChatGPT 難以真正理解情感和情感上下文，這可能導致在需要情感支持或情感理解的情況下回答不足。
5. **過度自信：** 有時候 ChatGPT 可能會以一種過於自信的方式提供回答，即使它的回答並不確定或不正確。

總之，ChatGPT 是一個功能強大的語言模型，具有許多應用價值，但同時也有其限制。在使用 ChatGPT 時，需要謹慎考慮其生成內容的準確性和適用性，並在需要的情況下進行進一步的驗證和審查。

學術圖書館應用人工智慧於知識探索之潛在方法

Approach	What is involved	Skills needed	Resource cost	Risks	Likelihood
1. Project	Building toward another type of involvement; skill development	Project management	Low	Temporary involvement	1 Highly likely because low cost/risk
2. Do nothing	Nothing	None	None	Risk of being seen as not in tune with latest trends	2 Likely
3. License a proprietary AI product	Evaluation and support of third party products	Procurement, marketing, support through knowledge of users, bridge to IT services, understand potential of technology	Med	Vs open access ethos, limited by aggregator content, cost	2 Likely
4. Offer collections as data for AI	Collection management, metadata, data management, provenance—management of bias	Collection management, data management digitization, and so forth	Med	Have to have or acquire unique resources Impact on traditional cataloguing roles	2 Likely for research intensive/low for other
5. Support an institutional community led by data science academics	Library as service, for example, some help with things like copyright, training, choice of tools	Community participant, professional skills for example, in copyright, training	Low	More marginal involvement	2

資料來源：Cox, A. (2023). How artificial intelligence might change academic library work: Applying the competencies literature and the theory of the professions. *Journal of the Association for Information Science and Technology*, 74(3), 375-376, Table 3.

學術圖書館應用人工智慧於知識探索之潛在方法 (續)

Approach	What is involved	Skills needed	Resource cost	Risks	Likelihood
6. Build institutional AI community	Neutral space, copyright expertise, support to software tools, training, acquire content Ethical issues central	Depth of expertise in copyright, tools, training Ethos of openness, sharing, and so forth, community building	Med	Hard to sustain, based on personal networks	3
7. Participate in extra-institutional support community	Contribute content, time, signpost the service to users	Collaboration skills	Med	Needs community to exist	4 Unlikely because community does not exist
8. Customize AI products to local needs	Take AI products and customize them to local needs	AI skills	High	Risk of heavy investment for low return	4 But require skills and resources
9. Resist	Ethics and human values opposing bias	Values and ethics	Low	Risk of being seen as not in tune	4 Unlikely because tech love in profession
10. Create infrastructure which is tool agnostic	Create an infrastructure for data science across the institution	Infrastructure, workflows, storage, and so forth	Med	Skills lacking	4
11. Build own AI	Create own AI tools	Data science, AI	Very high	Skills lacking	5

資料來源：Cox, A. (2023). How artificial intelligence might change academic library work: Applying the competencies literature and the theory of the professions. *Journal of the Association for Information Science and Technology*, 74(3), 375-376, Table 3.

臺灣大專校院圖書館之人工智慧應用推展困難與障礙

— 已導入館之館員觀點

- From librarians whose libraries **have implemented AI** applications (n = 26)

Items	n	%
Funding and cost associated with implementation	14	54
Human resources	6	23
Technological problems (technical capability of the suppliers and their product, ineffective responses to questions, immature product, equipment maintenance)	6	23
Managerial problems (replacing existing service resources, misunderstandings because of unreliable technology, increased conflict, limited help in the library, few administrative resources)	5	19
Willingness and acceptance among librarians	3	12
Support from the university	3	12
Privacy concerns	3	12
Library stereotypes from the readers/difficult to promote innovative services	1	4

資料來源：Huang, Y.H. (2022) Exploring the implementation of artificial intelligence applications among academic libraries in Taiwan. *Library Hi Tech*, Vol. ahead-of-print No. ahead-of-print.
<https://doi.org/10.1108/LHT-03-2022-0159>



臺灣大專校院圖書館之人工智慧應用推展困難與障礙

— 未導入館之館員觀點

- From librarians whose libraries **have not implemented** AI applications (n = 129)

Items	n	%
Funding and cost associated with AI implementation	69	53
Awareness, acceptance, and willingness of librarians/librarians lack of understanding of AI applications	32	25
Human resources	25	19
Maturity and reliability of AI application/equipment maintenance problems	23	18
Support from managers and universities	15	12
Managerial problems (investing more resources rather than reducing human resources in the short term, investing more money, no urgent necessity, unclear effectiveness, librarians must provide more detailed services than existing robots, increase in business, lack of communication on the promotion of AI)	13	10
Technological environment of the library is insufficient for effective AI services	9	7
Privacy concerns	8	6
Library stereotypes from readers/difficult to promote innovative services	4	3

資料來源：Huang, Y.H. (2022) Exploring the implementation of artificial intelligence applications among academic libraries in Taiwan. *Library Hi Tech*, Vol. ahead-of-print No. ahead-of-print.

<https://doi.org/10.1108/LHT-03-2022-0159>

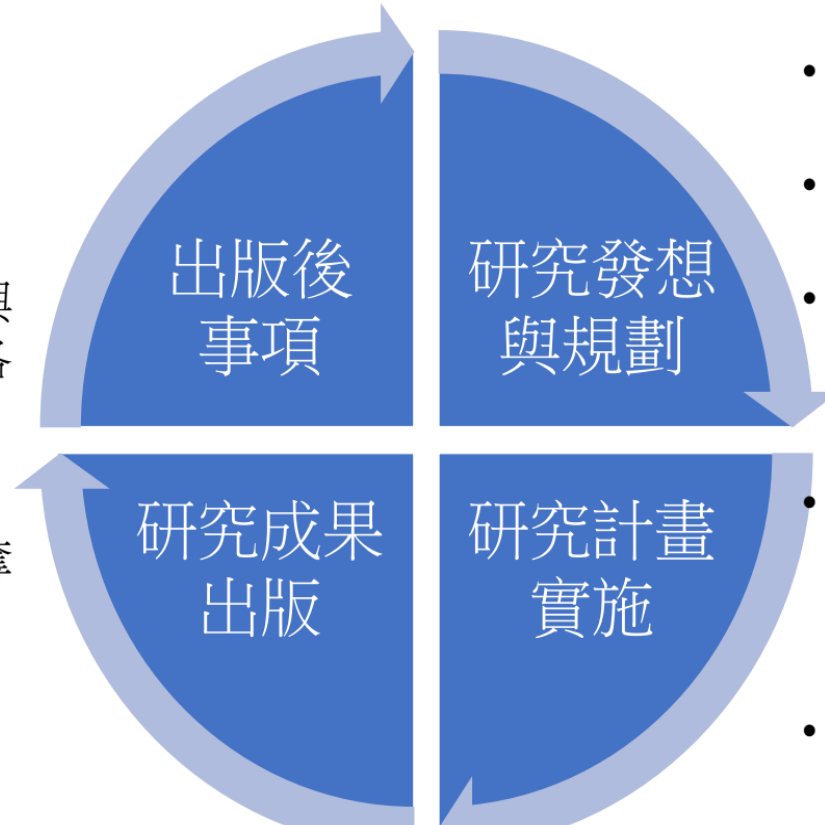


國內外圖書館導入人工智慧技術應用之現況

- 人工智慧於圖書館以**倡導與推廣**之角色類型居多，其次是**開發與應用**。
- 導入人工智慧技術應用之初期建置費用與人力資源投入多，未必能協助緊縮的人力，**產品的成熟度與穩定度不確定**因素高。
- 「擔心人工智慧技術引進將取代館員的業務」並非重要阻力，是否能**有效提升圖書館服務質量**才是考量因素重點。
- 館員需具備足夠**專業能力**以判別**人工智慧技術應用的正確與合理性**

學術圖書館的特色服務：學術傳播、研究資料管理與數位學術研究等三種類型館員在研究週期中提供之服務與諮詢

- 出版著作典藏與推廣利用 [SC-表1①]
- 研究資料典藏與推廣利用 [SC-表1②, RDM-表1①②③]
- 建立數位典藏系統之導入與經營模式之經驗法則並向各學科領域推廣 [DS-表1①]
- 管理文章處理費 [SC-表1①]
- 投稿期刊諮詢以防誤投掠奪型期刊 [SC-表1④, RDM]
- 期刊出版與編輯 [DS]



- 倡導開放取用議題之正確觀念 [SC-表1②, RDM-表1②, DS]
- 著作權與開放取用議題諮詢 [SC-表1③, RDM, DS]
- 數位典藏專案計畫協同規劃 [DS-表1①②]
- 輔導研究人員至指定系統編輯資訊，符合研究計畫之開放取用規範，以取得下一階段研究經費 [SC-表1②]
- 輔導研究人員善用研究資料管理系統 [RDM-表1①③]

[SC]學術傳播館員、[RDM]研究資料管理館員、[DS]數位學術研究館員

臺灣的大學圖書館提供學術傳播相關服務的現況

- 著作權議題宣導
- 電子學位論文上傳諮詢
- 機構典藏建置與維護
掠奪性期刊宣導
- 開放取用期刊推廣等
項服務

七成以上

- 期刊影響係數排名
查詢及諮詢
- 掠奪性期刊諮詢
- 倡導國際開放取用
週活動
- 開放教育資源推廣

七成以下至五成

- 開放教育資源蒐集整理
- 學術庫或專家庫建置與維
運
- 投稿國際期刊選刊諮詢服
務
- ORCID之推廣與諮詢
- 學術影響力分析
- 研究資料管理
- Altmetrics之推廣與諮詢
- 與出版社簽署R & P合約，
直接抵免大學內投稿者
APC
- 與出版社協議，使大學內
投稿者獲得APC折扣
- 開放教育資源編撰補助
- 開放取用期刊文章處理費
補助

低於五成

資料來源：黃元鶴、邱子恒（2022，12月）。我國大學圖書館學術傳播相關服務推動現狀與未來發展初探。第二屆圖書資訊學術與實務研討會(2nd Conference of LIS and Practices, CoLISP 2022)。臺北市：師範大學圖書館。

學術圖書館導入人工智慧技術應用之考量因素

- 自動化 v.s. 人工智慧
- 學術傳播服務等專屬於學術圖書館之特色服務
→ 人工智慧技術如何協助推廣與深化服務
- 人工智慧應用選擇與導入層次不同 → 影響館員技能需求內容

Skills needed	Skills needed
Project management	Depth of expertise in copyright, tools, training
None	Ethos of openness, sharing, and so forth, community building
Procurement, marketing, support through knowledge of users, bridge to IT services, understand potential of technology	Collaboration skills
Collection management, data management digitization, and so forth	AI skills
Community participant, professional skills for example, in copyright, training	Values and ethics
	Infrastructure, workflows, storage, and so forth
	Data science, AI

建議

人工智慧之倡導與推廣

- 強化館員對於人工智慧技術的瞭解，提供相關教育訓練課程，並促進相關知識分享之館內組織文化
- 宣導與教育讀者關於人工智慧概念的正確知識
- 辦理人工智慧通俗講座或工作坊
- 圖書館為跨學術交流的場域，支援跨學科領域之人工智慧課程的實體與虛擬教室

人工智慧技術應用於圖書館

- 募資導入人工智慧技術應用於圖書館
- 成立專案小組，群體決策
- 由館內專案小組成員主導適合該館導入應用的產品
- 做好完整的測試後才上線提供服務

報告完畢

敬請指教