

اسم المادة الدراسية: المعالجة الموضوعية للمعلومات
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العام الدراسي 2025-2026



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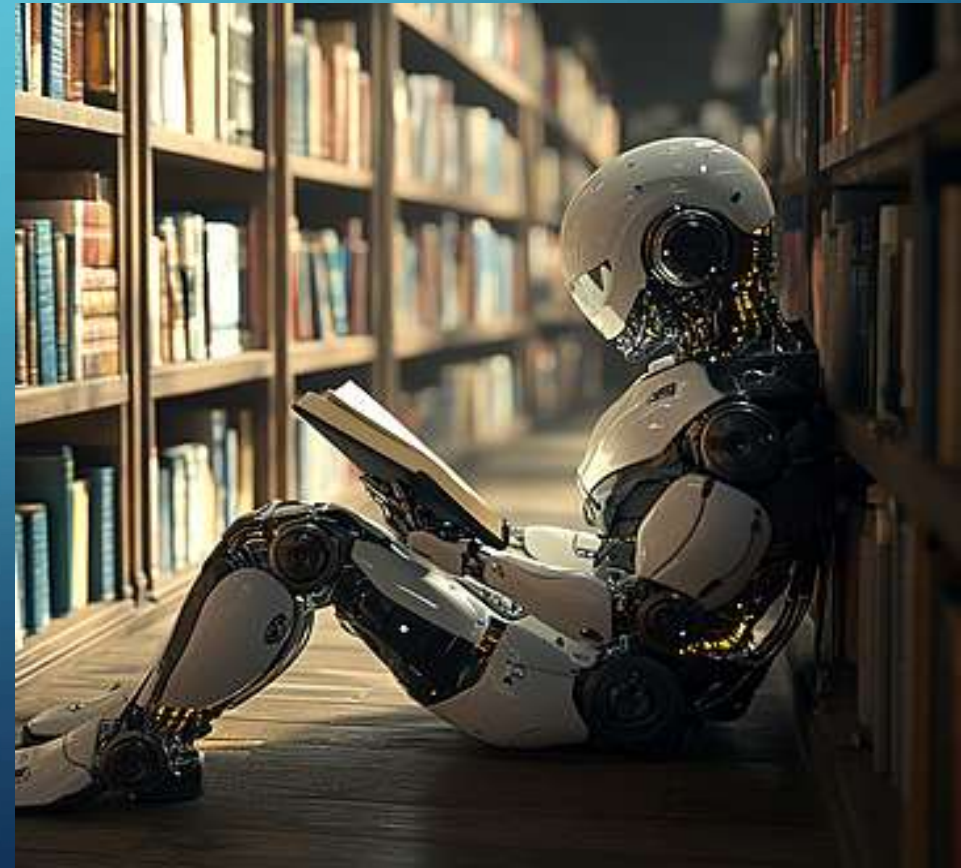
CLASSIFICATION IN THE AGE OF ARTIFICIAL INTELLIGENCE

NUMBERS

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FIRST STAGE

THE FIELD OF LIBRARY CLASSIFICATION HAS UNDERGONE A RADICAL TRANSFORMATION IN THE AGE OF ARTIFICIAL INTELLIGENCE, MOVING FROM BEING A MANUAL TECHNICAL PROCESS THAT RELIES ON THE EXPERTISE OF THE HUMAN CATALOGER, TO A "HYBRID" SYSTEM THAT COMBINES THE ACCURACY OF TRADITIONAL STANDARDS WITH THE SPEED OF ARTIFICIAL INTELLIGENCE.



KEY FEATURES OF CLASSIFICATION IN THE CURRENT ERA:

1. Intelligent automation of global classification systems

Systems such as the Dewey Decimal Classification (DDC) and the Library of Congress Classification (LCC) are no longer applied entirely manually, but rather rely on:

- * Predictive classification: Using machine learning algorithms to analyze the full text of a book or its summary, and suggesting an appropriate classification number with an accuracy exceeding 95%.
- * Automated metadata extraction: The ability of artificial intelligence to identify the title, author, and main themes from the cover and title page using Optical Character Recognition (OCR) technology.
- * Compliance with MARC21 standards : Automatically generates compliant bibliographic records, reducing human errors in data entry.

2. Artificial intelligence techniques driving

- * Natural Language Processing (NLP): Used to understand the content of books in multiple languages, making it easier to classify foreign books without the need for a translator.
- * Computer Vision : Analyzing book covers and illustrations within them to deduce themes that may not appear in the explicit text.
- * Large Language Models (LLMs): The ability to summarize content and generate accurate and flexible "topic headings" that align with modern scientific terminology.

3. The shift from static to dynamic classification

In 2026, the concept of adaptive classification emerged, where:

- * Systems can update classification numbers for new topics (such as quantum technologies or the green economy) much faster than annual paper updates.
- * Linking the classification to the user's behavior; the system suggests sub-classifications based on information retrieval and academic research patterns.

4. Operational benefits of academic libraries

- Speed : Reducing the time required to classify a single book from 15-20 minutes to just a few seconds.
- Accuracy : Reducing discrepancies in classification numbers between branches of the same library.
- Cost : Saving human effort for advanced consulting and research tasks instead of routine



LIBRARY CLASSIFICATION HAS EXPANDED BEYOND SIMPLY "GIVING A NUMBER TO A BOOK," AS CLASSIFICATION HAS BECOME A STRATEGIC TOOL FOR LINKING GLOBAL KNOWLEDGE.

1. Transition from "hierarchical classification" to "network classification"

In traditional systems (such as the Dewey Decimal System), a book is placed on a single shelf with a single number. However, with artificial intelligence:

- * **Multi-dimensional classification:** The system can classify a single book in multiple contexts in the automated index (for example: a book on "The History of Medicine in Andalusia" is classified under History, Medicine, and Islamic Studies simultaneously and with extreme accuracy).

- * **Linked Data :** Using RDF and URI technologies to link a book's classification to external sources (such as Wikipedia and global research databases), making the "classification number" a gateway to endless information.

2. Artificial intelligence and the classification of "non-textual content"

The classification is no longer limited to printed books, but has expanded to include:

- * **Multimedia:** Automatically classifying images, videos, and geographical maps based on their visual content and historical context.

- * **Ancient manuscripts:** Trained AI models (such as those used in heritage studies) can identify the type of script, era, and subject matter in manuscripts that are difficult for a non-specialist cataloger to handle, and suggest an accurate classification for them.

3. Semantic Classification

Instead of just searching for keywords, modern systems understand the overall meaning:

- * If the book is about "environmental sustainability," the system automatically links it to the categories of "green economy" and "climate change" even if these words are not explicitly mentioned in the title.
- * Automated Authority Control: Artificial intelligence corrects and standardizes author names and subject headings (Authority Control) and prevents duplication or conflict in classification numbers (Cutter Numbers).

THE ROLE OF "CLASSIFIER" IN LIBRARIES

The librarian's role is no longer simply classifying routine books, but has evolved into:

1. Systems trainer and evaluator: Reviewing the quality of AI outputs and correcting their biases .
2. Specializing in "Big Data": Managing the flow of digital information that enters the library daily.
3. Designed for user experience: Facilitating researchers' access to information through smart search interfaces based on accurate subject classification.



NEW AND PIVOTAL ROLES OF THE CLASSIFIER IN THE AGE OF ARTIFICIAL INTELLIGENCE

1. AI Quality Auditor

Artificial intelligence may be fast, but it is not immune to "hallucination" or misinterpreting local cultural and religious contexts.

- * Role: Reviewing the classifications suggested by the system, especially in sensitive topics or books that deal with overlapping issues (such as books that combine religion and science, or politics and history).

- * Example: If the system classifies a book on "the philosophy of fasting" under the medicine section (because it mentions health benefits), a human classifier intervenes to redirect it to the worship or Islamic philosophy section to ensure that the correct user receives it.

2. Ontology

Instead of simply applying ready-made rules, the classifier became involved in building "knowledge structures".

- * Role: Building and developing the thesauri and semantic links that feed the AI engine. The classifier is the one who teaches the machine that the term "data mining" is related to "artificial intelligence" and also to "statistics".

- * Example: Working to customize global classification systems (such as Dewey) to suit the Arab or academic privacy of his institution, and adding smart descriptors (Tags) that increase the accuracy of information retrieval.

3. Research

Thanks to saving the time that was wasted on manual indexing, the catalog has become a "research partner" for academics and students.

- * Role: To assist researchers in building complex research strategies based on a deep understanding of information structures. This is the person who knows how topics "converse" with each other behind the scenes in the digital world.
- * Example: When a graduate student is unable to find references on an interdisciplinary topic , the classifier analyzes the digital classification map and directs it to sources that may not appear in a surface search for keywords.

4. Ethical Watchdog (Guardian of Digital Ethics and Bias)

This is the most important role in the current era ; artificial intelligence algorithms are often trained on Western data and may show bias in classifying Eastern or Islamic issues.

- * Role: Monitoring the system to ensure there is no "algorithmic bias" . The classifier is the one who ensures that just causes and national identity are classified correctly and objectively, away from the molding of foreign engines.

COMPARISON BETWEEN THE OLD AND NEW TASKS OF THE WORKBOOK

The modern mission (the age of artificial intelligence)	Traditional task (before artificial intelligence)
Supervising the automated classification of thousands of books at once	Manually assign a classification number to each book
Participating in updating and developing digital and semantic descriptors	Strict adherence to printed classification tables
Processing big data and ensuring the quality of linked data .	Manual entry of bibliographic data (MARC21).
Direct interaction with beneficiaries as a digital information consultant	Working in the library's "back rooms" (rooms designated for technical procedures)

SUMMARY

The classifier in the age of artificial intelligence is not just a "number-setter," but a manager of knowledge content; he guides the machine, corrects its course, and makes the library a living entity capable of answering the most complex research questions.



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