



KBR



*For Whom We Should Create
the Bibliographic Data !*

The Rise of Machine

By

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Brussels
18th Aug 2023

Agenda

- **Title:** For Whom We Should Create the Bibliographic Data: The Rise of Machine
- **Location:** KBR.
- **Duration:** 1 Days (10:10 pm - 10:35 am).
- **Speaker:** Moamen Elnasharty, PhD.
- **Audience:** Librarians, Knowledge Managers and Academic Staff.
- **Organizer:** IFLA WLIC 2023.



Outline

- Bibliographic Control.*
- AI & Machine Learning.*
- Generate AI Based on BC,*



“... Let’s Start ...”

Data is the New Oil

A perspective view of a server room aisle. The server racks on both sides are filled with equipment, and many small lights are visible on the front panels. The floor is a light-colored tile with a grid pattern. The lighting is a cool blue color, creating a futuristic and high-tech atmosphere.

So !!!

Where Data Comes From?

A close-up photograph of a person's hands writing on a scroll with a quill pen. The scene is dimly lit, with a single candle providing the primary light source. The background shows a wooden desk and a book. The overall atmosphere is historical and scholarly.

In the Past

*The Human Being Was The Primary and The Only
Source Of Data Production by:*

Authorship, Discovery, Creativity, Extrapolation, Conclusion, Invention...



The Products was

*Manuscripts, Printed Books and Journals,
Audiovisual, Digital Resources !*

With the Large Human Production of Data and Information Resources, We Needed to Methods, Means, and Tools to:

- Organize,
- Searching,
- Find,
- Identify,
- Select,
- Acquire or Obtain Access,
- Navigate
- and Explore

These Information Resources.

وَعَمِلُوا فِيهَا مِمَّا كَانُوا يَعْمَلُونَ
وَمِنْ شَرِّ الْمَسَاءِ وَمِنْ شَرِّ
الْفُضَاءِ وَمِنْ شَرِّ الْفَلَمِ
وَمِنْ شَرِّ مَا جَرَى بِهِ الْفَلَمِ
اللَّهُمَّ لَا تَقْتُلْنَا بِغَضَبِكَ
وَعَافِنَا فَبَلْ ذَلِكَ
أَرْحَمْنَا وَ

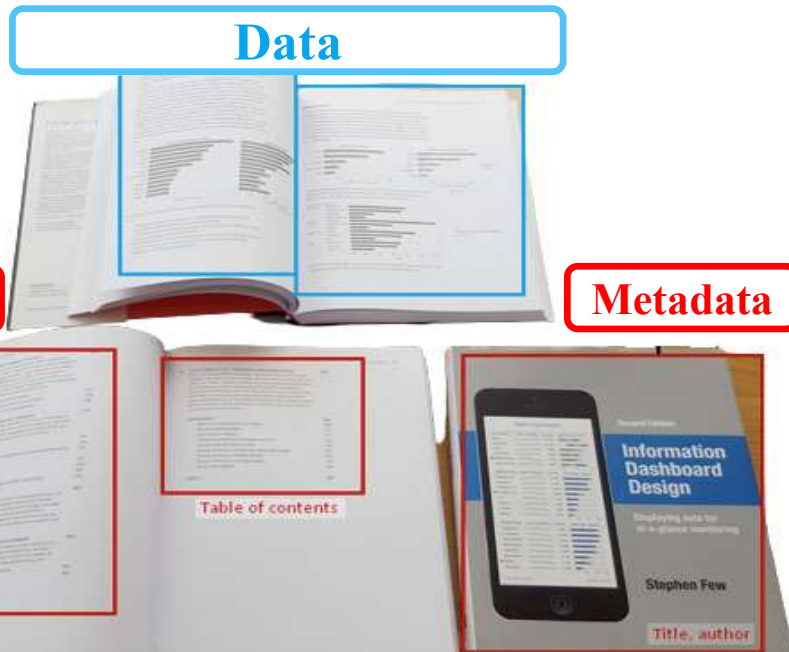
بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ
اللَّهُمَّ إِنِّي أَسْأَلُكَ خَيْرَ
الصُّبْحِ وَخَيْرَ الْمَسَاءِ وَ
خَيْرَ الْفُضَاءِ

So, the *Metadata and
Bibliographic Control*
have been
formulated !!!



Metadata

- *Metadata is basically data that describes Entities or Information Resources.*
- *It helps us understand the origin, structure, nature, and context of data.*
- *As a result, we can categorize, organize, and then easily retrieve information.*



Bibliographic Control

*A broad term encompassing all the activities involved in **Creating, Organizing, Managing, and Maintaining** the file of **Metadata Records** representing the items held in a library, Bibliographies, Databases, Museums or archival collection, to **Facilitate Access** to the information contained in them.*



BC History



The first Bibliographic Record Backes to the Ancient Egyptian Civilization, Amenhotep III, The first Bibliographic Record Backes to the ancient Egyptian civilization, Amenhotep III, by hieroglyphic inscription, it had been about "the book of the moringa tree",



The British Museum No: EA22878.



*The **Pinakes** is a lost bibliographic work composed by **Callimachus** that is the first library catalog in the world; its contents were based upon the holdings of the Library of Alexandria during Callimachus' tenure there during the third century BCE.*

At 990 C.E



Kashf al-Zunun 'an Asami al-Kutub wa al-Funun (The Removal of Doubt from the Names of Books and the Arts) is a bibliographic encyclopedia of books and sciences compiled by Turkish writer Kâtip Çelebi. It was written in Arabic.

Cataloged titles was of approximately 15,000 books; 9,500 names of authors; and 300 sciences and arts. The work is seen as a significant example of and contribution to Ottoman historiography.



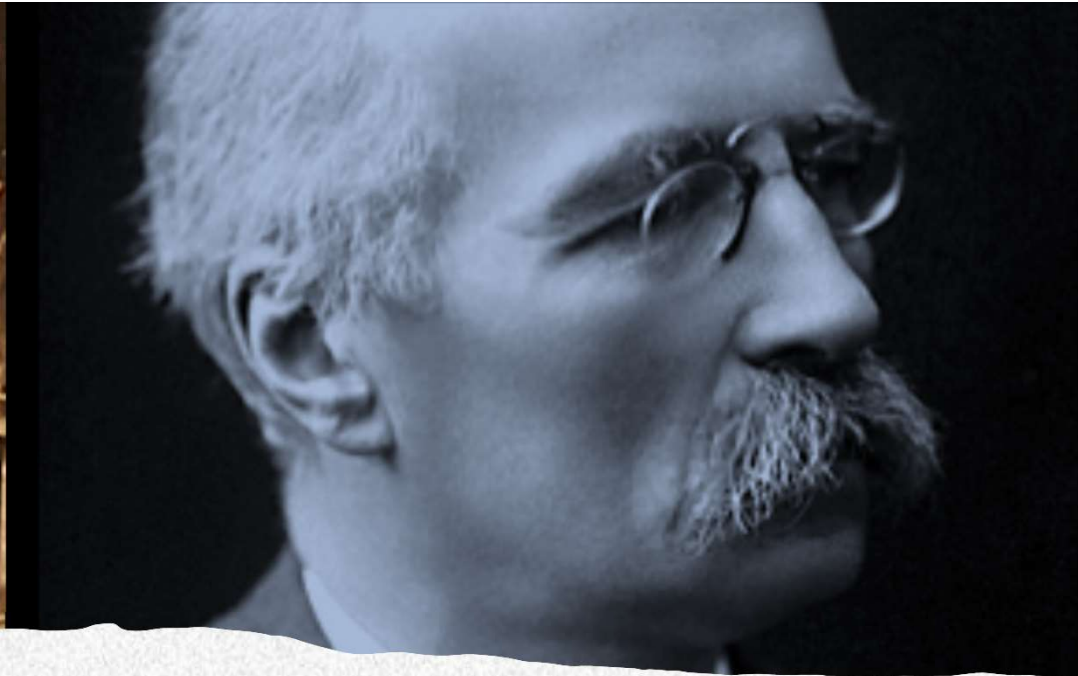
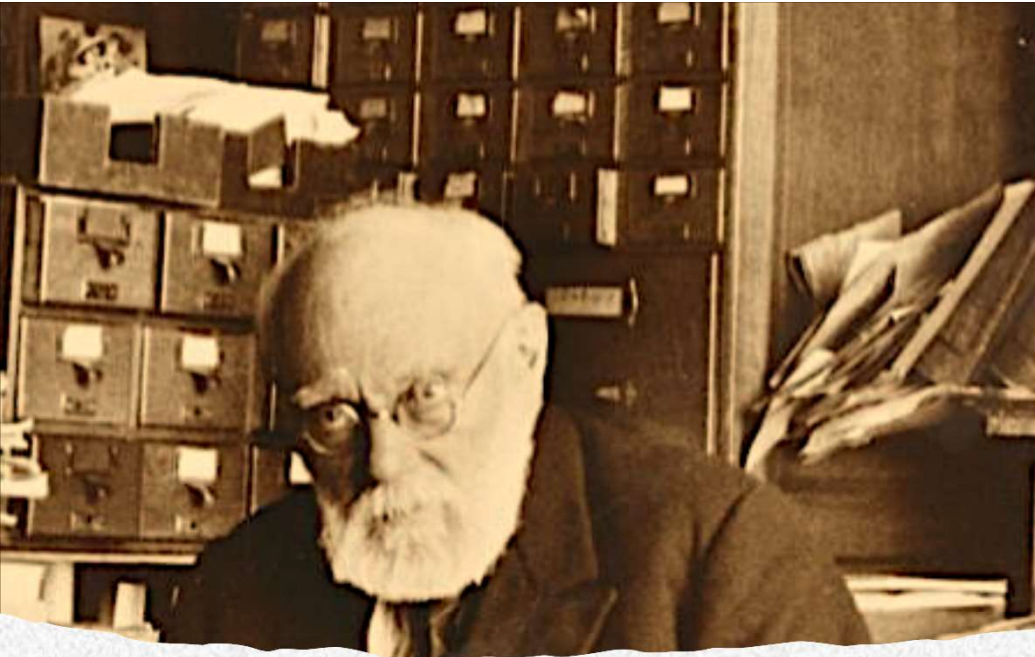
The Fihrist, or The Catalogue: is an encyclopedic bibliographical work completed in 987 C.E. by the Baghdadi bookseller Ibn al-Nadim (d. 990 C.E.).

like the card catalogue for the combined libraries of tenth-century.

the single most important source on the translation of Greek, Persian, and Sanskrit scientific legacies into Arabic in the 8th-10th centuries

Conrad Gesner is known as the
“father of bibliography”.
In 1545 he published *Bibliotheca
universalis (Universal
Bibliography 1545–1549)*
(*Twenty-one Books of
Encyclopedias or Universal
Divisions*).





The Roles of Otlet & La Fontaine in Universal Bibliographic Vision

- *Both played key roles in advancing the concept of universal bibliographic control through their works*
 - *The Universal Decimal Classification.*
 - *The Universal Bibliographic Repertory.*
 - *The Mundaneum: as a central repository for the world's information.*
 - *The World City or Cité Mondiale.*



*The First Intellectual Contributions in the Modern Era to Reach The Standard Bibliographic Catalogue backs to the efforts of **Antonio Panizzi** in 1841, where this effort was Clear in his book "**Ninety-One Cataloguing Rules**", where he established the Bibliographic Rules for Describe the Collections of British Museum.*



Charles Cutter's efforts in 1876 are considered one of the greatest efforts in this context, that led to the identification of *three basic objectives for bibliographic Catalogs*, namely:

- *The ability to enable users to find books by author – title - subject.*
- *Showing the library's information resources about: a specific author. on a specific topic.*
- *Assistance in choosing information resources based on edition. or subject.*



The LIBRARY
of CONGRESS



LIBRARY OF
CONGRESS

ALA

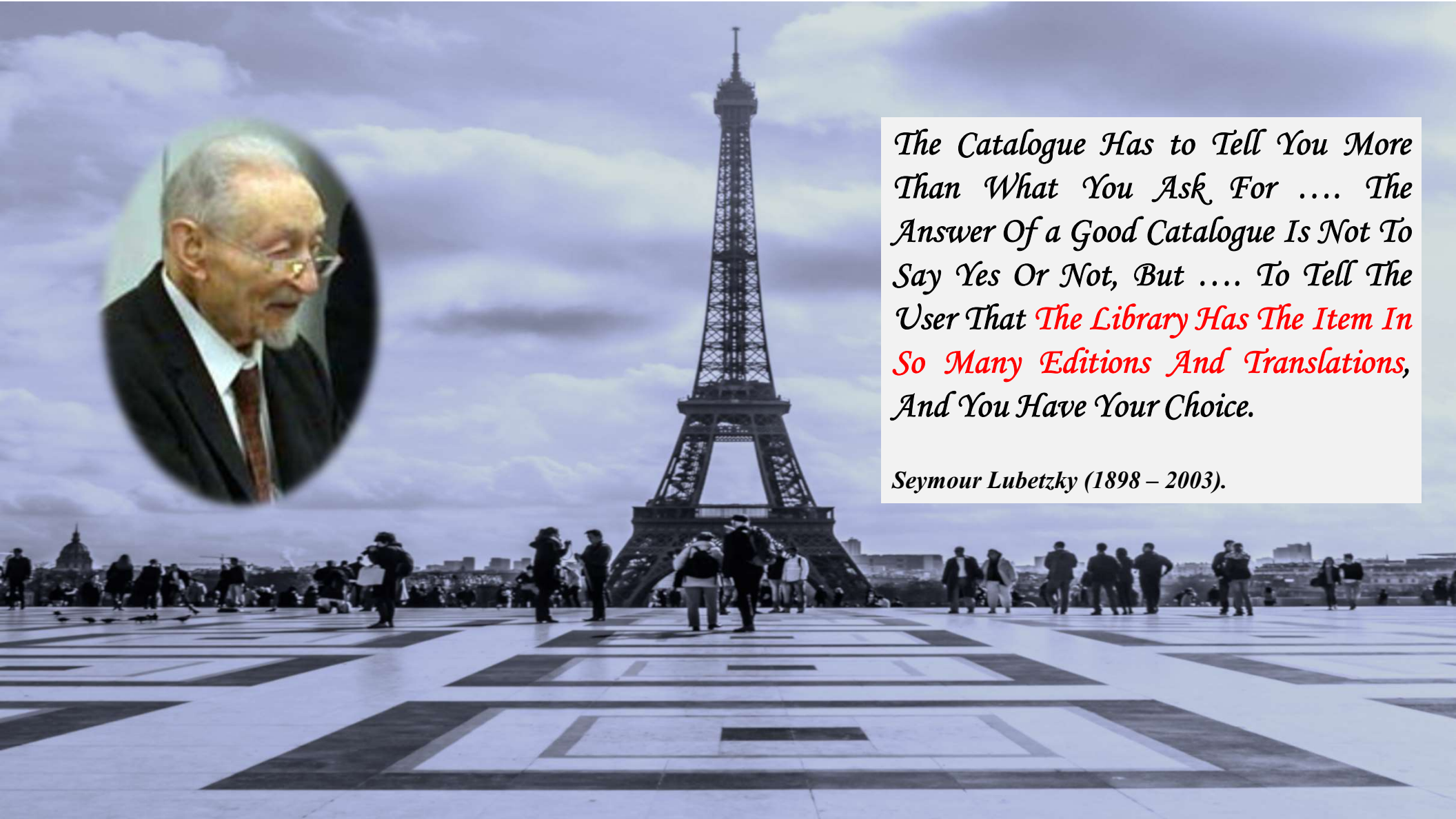
BRITISH
LIBRARY

*in 1908 a Radical and Important changes has been made in Bibliographic Control Efforts, Where efforts have become an institutional rather than an individual, where the **American Library Association** and the **British Library** issued a set of joint bibliographic rules, that became the core of the Anglo-American Cataloging Rules.*



*The Catalogue Has to Tell You More Than What You Ask For The Answer Of a Good Catalogue Is Not To Say Yes Or Not, But To Tell The User That **The Library Has The Item In So Many Editions And Translations,** And You Have Your Choice.*

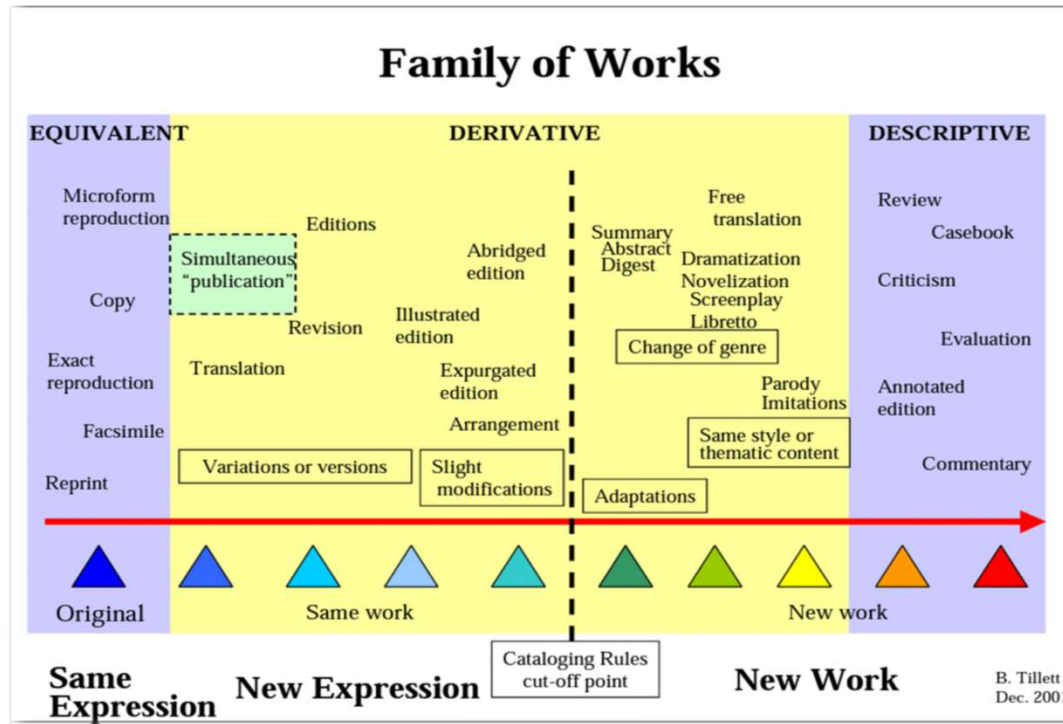
Seymour Lubetzky (1898 – 2003).





Henriette Avram, who developed the MARC format (Machine Readable Cataloging), that opened a new horizons for Data representation to Machine.

Tillett & Bibliographic Models



THE DAILY NEWS

www.dailynews.com

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- Since 1879

عبقرية التأليف العربي، مؤلف يكشف عظمة المؤلفين



العرب

Lorem Ipsum In libris
gaecis appetere mea. At
vim odio lorem omnes, pri id
iuvaret partiendo. Vivendo
menandri et sed. Lorem
volumus blandit cu has.Sit
cu alia porro fuisset.

Ea pro natum invidunt
repudiandae, his et facilisis
vituperatoribus. Mei eu
ubique altera senserit,

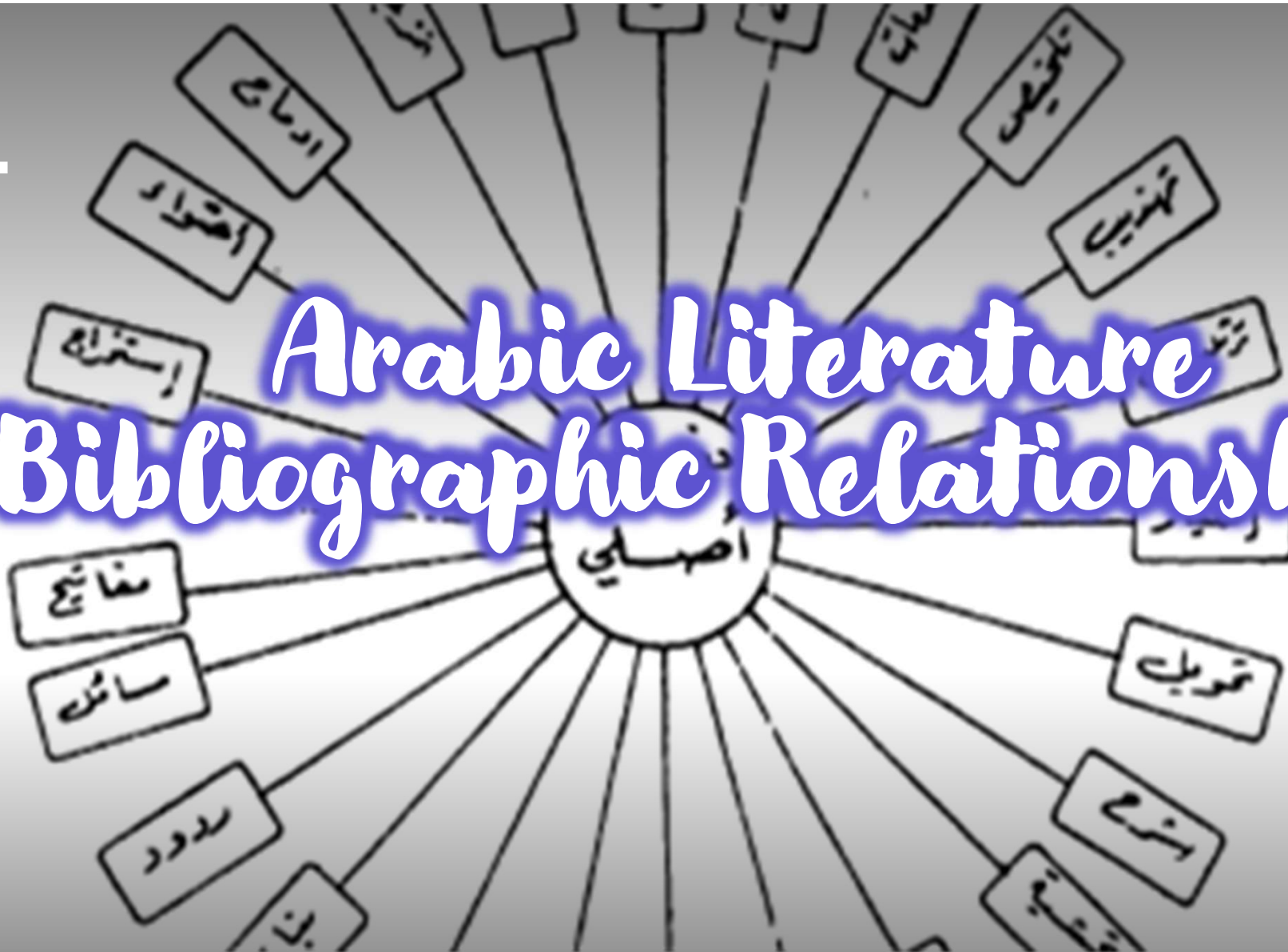
In libris gaecis appetere
mea. At vim odio lorem
omnes, pri id iuvaret
partiendo. Vivendo
menandri et sed. Lorem
volumus blandit cu has.Sit
cu alia porro fuisset.

Ea pro natum invidunt
repudiandae, his et facilisis
vituperatoribus. Mei eu
ubique altera senserit,

**ARAFAT'S
EFFORTS**

Bibliographic Control Based on Relationships

Arabic Literature Bibliographic Relationships



We are IFLA



IFLA.org

IFLA was established in 1927 at Edinburgh, Scotland. In 1971, the Head Quarter was shifted at Netherland, the Hague.

IFLA is a Non-Governmental, Not-For-Profit, an International Organization.

IFLA- provides, Information Specialists to the World, with a forum for exchange Ideas,

IFLA Promoting International Co-Operation, Research, and development in all fields of library and its services

#WeAreIFLA

IFLA & Universal Bibliographic Control

Universal Bibliographic Control (UBC) is a concept has been Coined by Herman Liebaers (the president of IFLA).

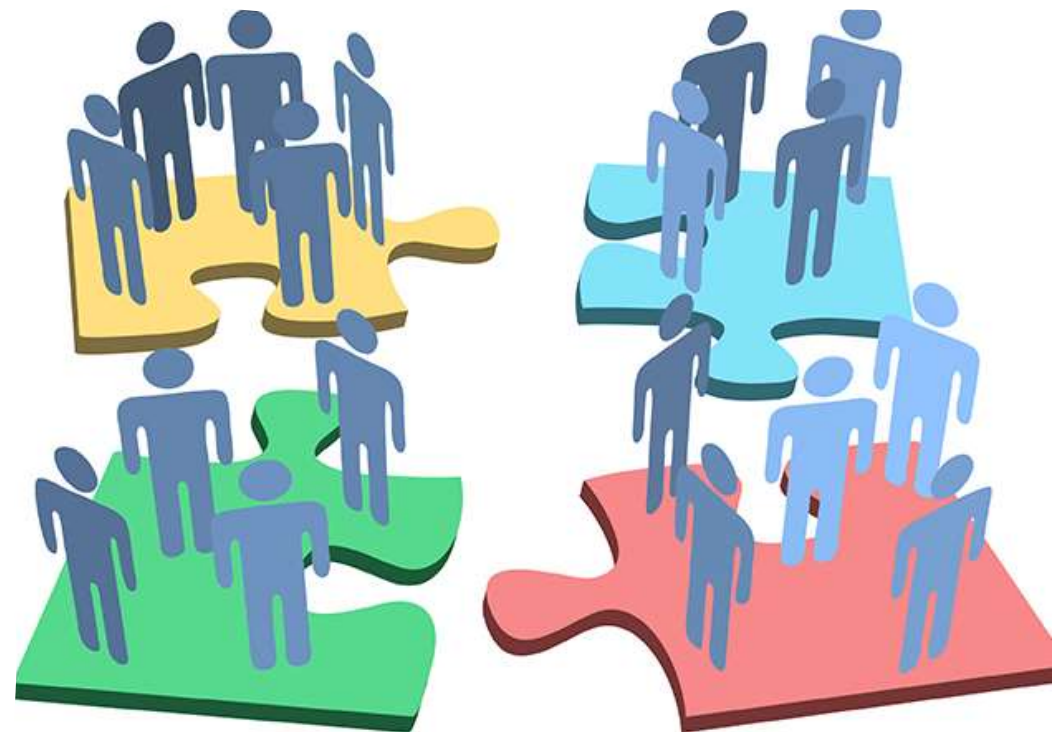
According to the UBC “... Any Document would only be cataloged once in its country of origin, and that record would then be available for the use of any library in the world...”

*In the currently era, IFLA has played a central role, stimulating **National Bibliographic Agencies** to promote standards and collaborations that go beyond the national sphere, leading to multicenter and even more cooperative bibliographic control.*



Universal Bibliographic Control

- The Aim of UBC is Promotion of a worldwide system for the control and exchange of bibliographic information.
- Requirements of UBS are Need an Authoritative Organization-UNESCO, NBA- Create the Authoritative, Produce and Distribute the records in a standard physical form.





Bibliographic Control Tools

Library Catalogs

- *A comprehensive list of bibliographic data of sources of information found in a given institution, arranged in an orderly manner for ease of retrieval (usually alphabetically by author, title, or subject).*
- *It is available in the form of recordings that reflect the formal and implicit descriptions of these sources.*
- *the main objectives from catalogues are:*
 - *Enable anyone to find any source of information.*
 - *Shows what the library contains.*
 - *To help choose the source of information*

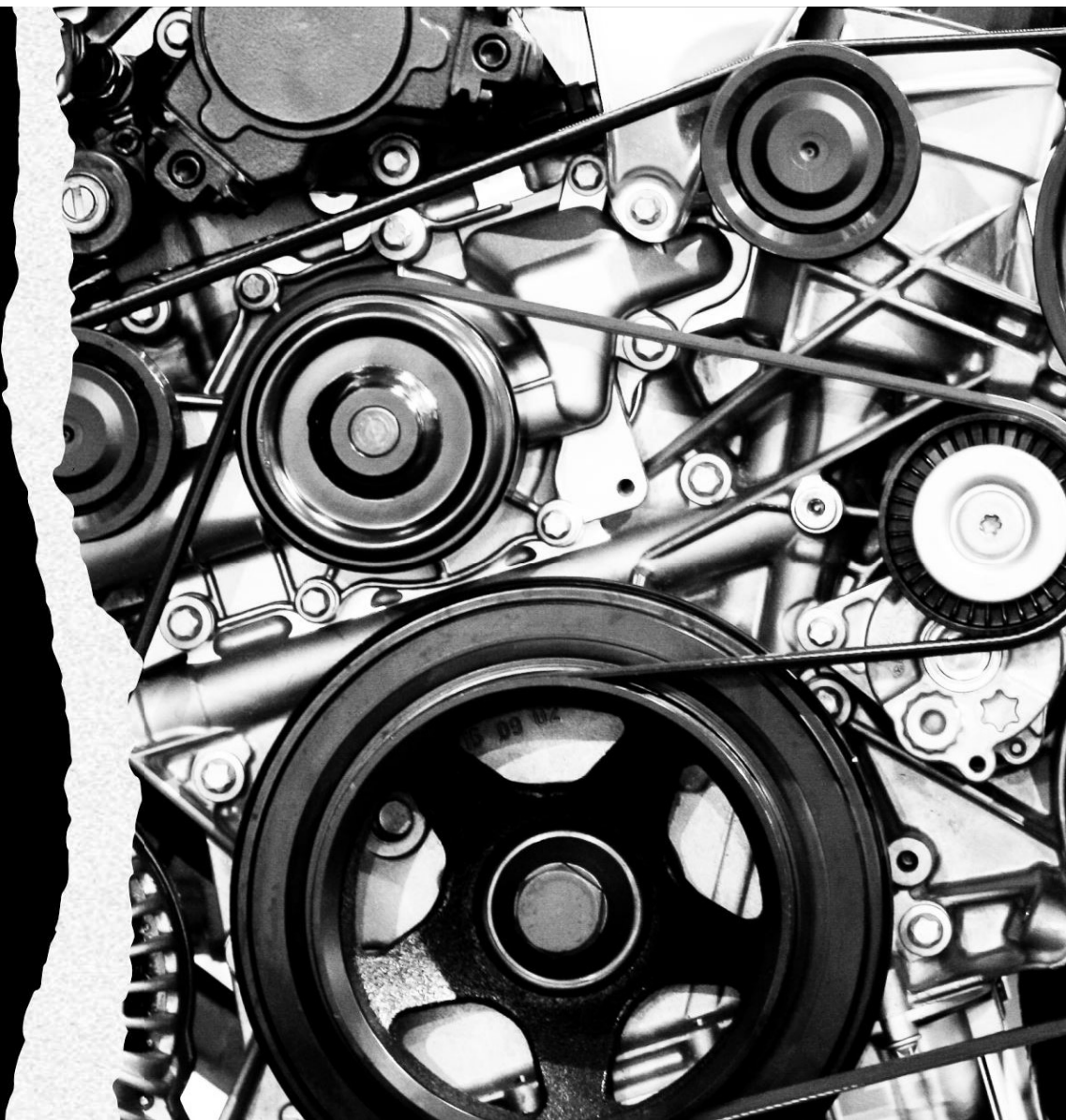


Bibliographies

A systematic list of works written by a specific author or on a specific topic, or that share one or more common characteristics (language, form, period, place of publication, etc.).

Search Engines

A search engine is a software program that helps people find the information they are looking for online using keywords or phrases. Search engines are able to return results quickly—even with millions of websites online—by scanning the Internet continuously and indexing every page they find.



How Can Create Bibliographic Control?



Maybe By Manual





MICHAEL GORMAN

Title

Death penalty.

KF9725
.S74

Stevens, Leonard A

Death penalty : the case of life vs. death in the United States / by Leonard A. Stevens ; foreword by Michael Meltsner. — New York : Coward, McCann & Geoghegan, c1978.

159 p. ; 24 cm. — (Great constitutional issues)

Bibliography: p. 154-155.

Includes index.

ISBN 0-698-30701-1

Subject tracing

1. Capital punishment—United States. 2. Furman, William Henry. I. Title.

KF9725.S74

345'.73'077

78-5880

MARC

Library of Congress

78

Maybe By Automation





R | D | A

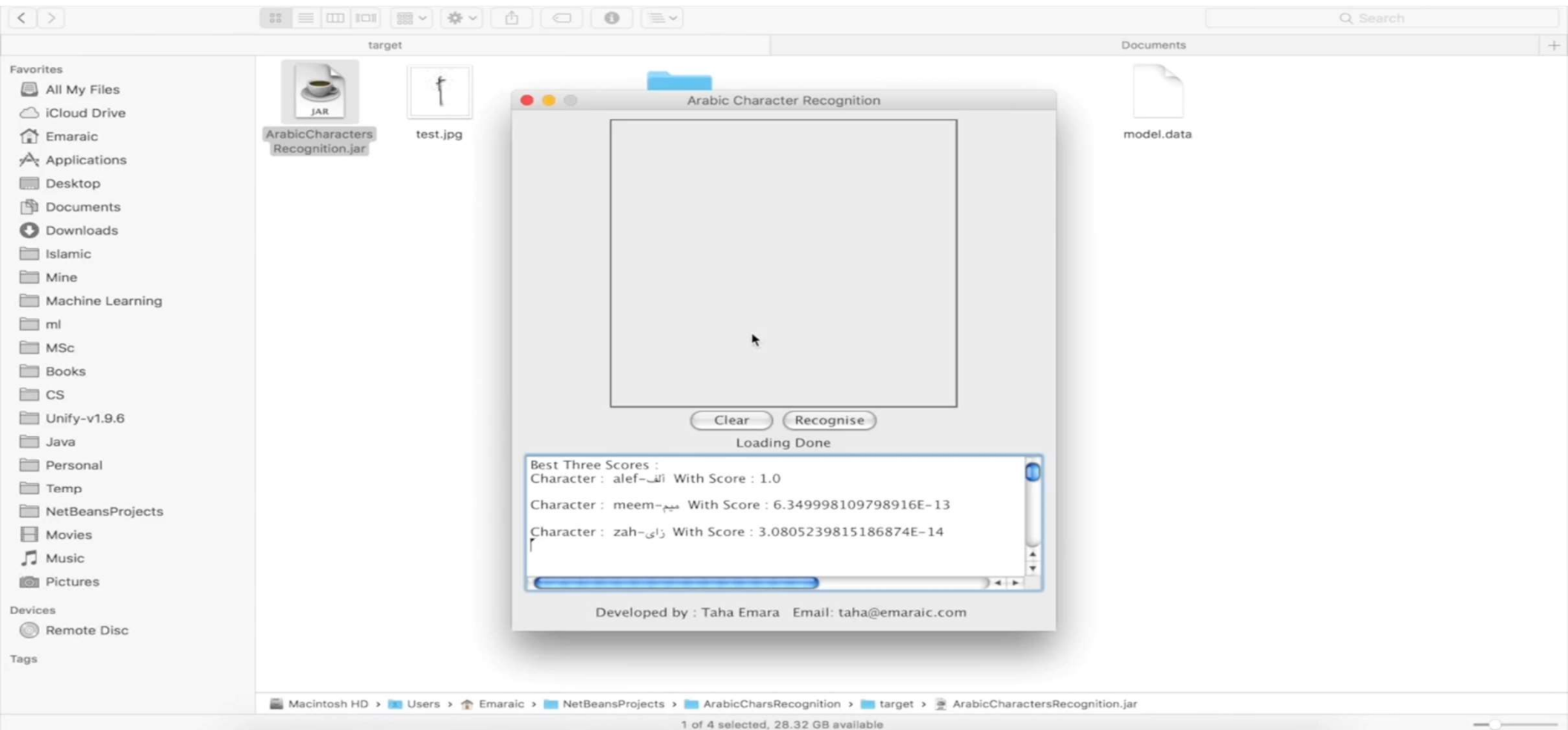
RESOURCE DESCRIPTION AND ACCESS

001 26132811
008 920608s1992 nyu bf 001 0 eng
010 \$a92021087
020 \$a1555701205
040 \$aDLC\$cDLC\$dAGL
049 \$aHNKA
050 00 \$aZ678.9\$b.C58 1992
082 00 \$a025/.00285\$220
100 1 \$aCohn, John M
245 10 \$aPlanning for automation :\$ba how-to-do it manual for
librarians /\$cJohn M. Cohn, Ann L. Kelsey, Keith Michael
Fiels
260 \$aNew York :\$bNeal Schuman Publishers,\$cc1992
300 \$avi, 116 p. ;\$c28 cm
440 0 \$aHow-to-do it manuals for libraries ;\$uno. 25
504 \$aIncludes bibliographical references and index
650 0 \$aLibraries\$xAutomation\$XManagement\$XHandbooks, manuals, etc
650 0 \$aLibrary planning\$XHandbooks, manuals, etc
700 10 \$aKelsey, Ann L
700 10 \$aFiels, Keith Michael

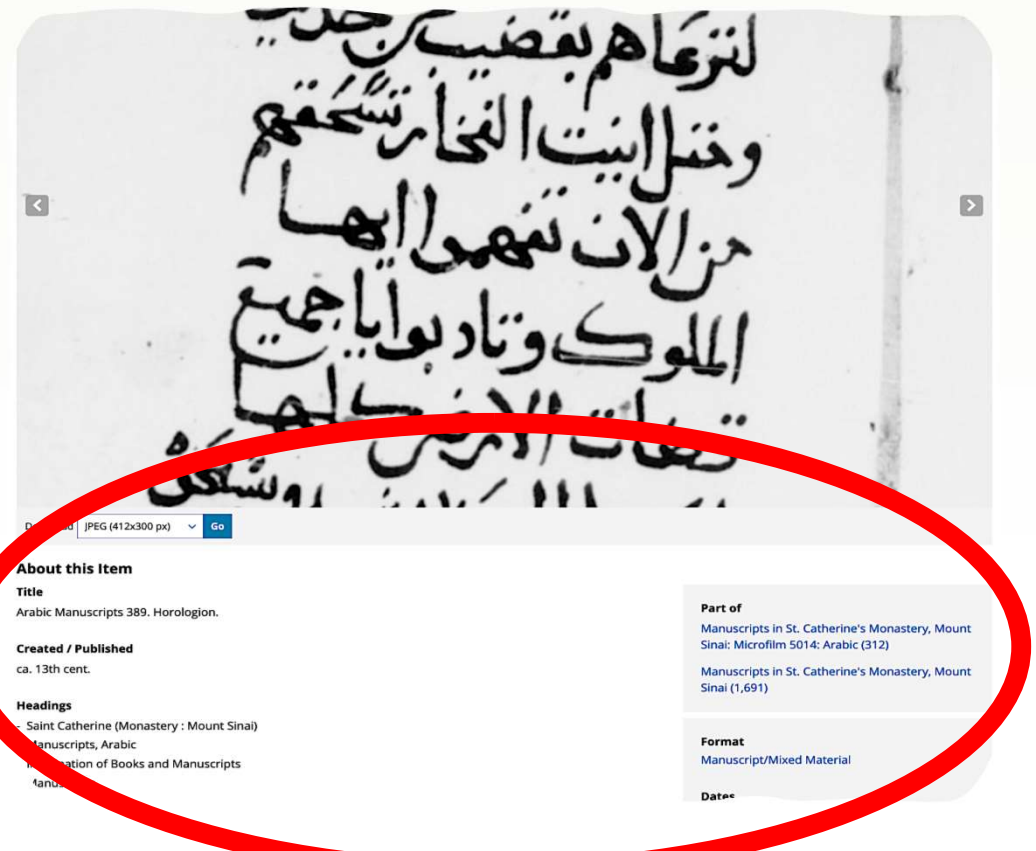
May be by Digital Transformation



Based on Text Analysis



To be Result Like this !

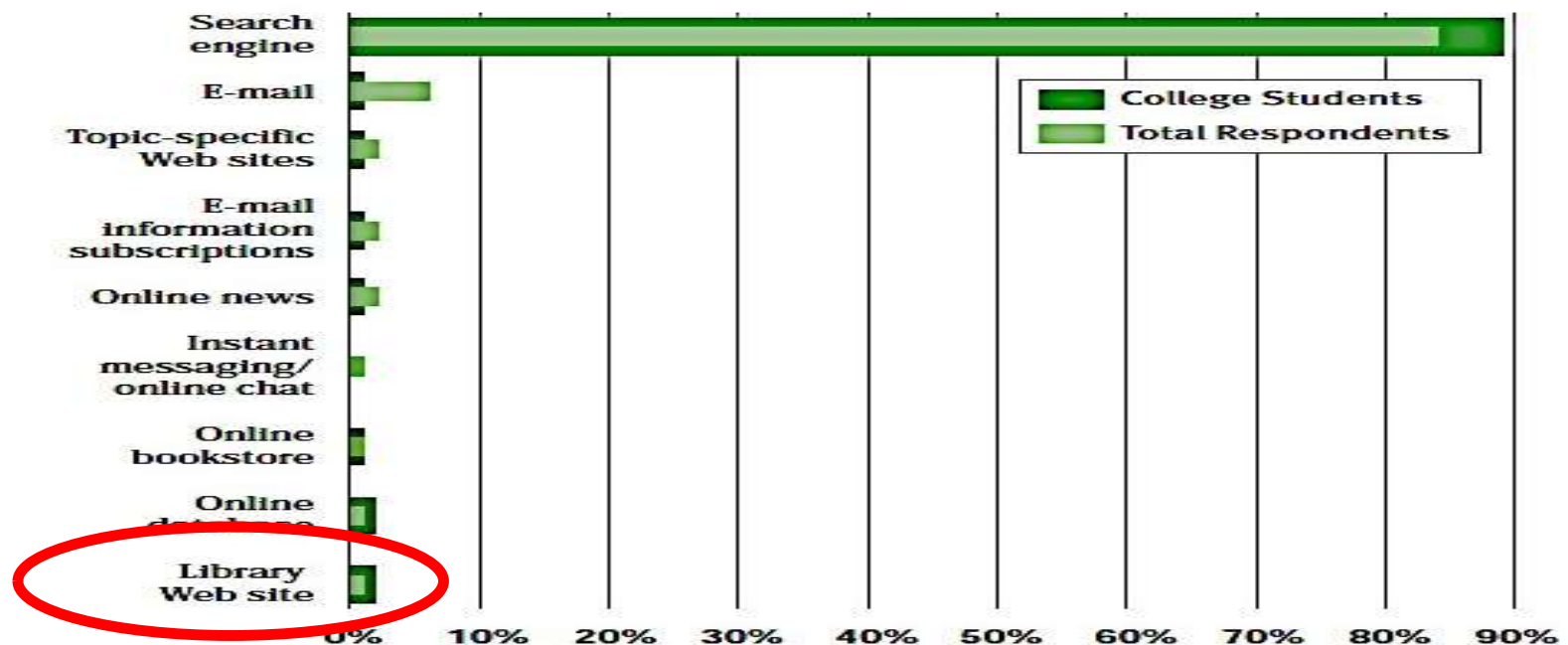




The Q:
**Are BC Tools Meeting
Users Needs Currently?**

The Current State of Bibliographic Control Tools

A survey conducted by the OCLC Network in 2010 about The usage of research tools in academic societies in Europe and USA revealed that library catalogs has a last rank between other research tools in conducting scientific research.



Why ?



*The Key is Knowledge
Integration*

Bibliographic Control Tools Don't Integrate with others



Despite it is online

The screenshot shows a Mozilla Firefox browser window displaying the Library of Congress Online Catalog. The page title is "Brief Record (Library of Congress Online Catalog) - Mozilla Firefox". The address bar shows the URL "catalog.loc.gov/cgi-bin/Pwebrecon.cgi". The page features the Library of Congress logo and navigation buttons for "Help", "New Search", "Search History", "Headings List", "Titles List", "Request an Item", "Account Info", and "Start Over". A banner promotes the "Library of Congress Online Catalog". The search results section indicates the database is "Library of Congress Online Catalog" and the search criteria is "Title Keyword = semantic web". The search results display "1 of 1" results. Navigation buttons for "Previous" and "Next" are visible. The main record is titled "International journal on Semantic Web and information systems." and includes a "Relevance" rating of five stars. The "LC control no.:" is circled in red and is "2004214933". Other fields include "LCCN permalink", "Type of material", "Main title", "Published/Created", "Publication history", "Description", "ISSN", and "Linking ISSN". The "CALL NUMBER" is "TK5105 .88815 .I58 Set 1".

File Edit View History Bookmarks Tools Help

Beyond MARC: ... Models for decis... Models for decis... Brief Record (... x LC control no: 2...

catalog.loc.gov/cgi-bin/Pwebrecon.cgi

The Library of Congress >> Go to Library of Congress Authorities

LIBRARY OF CONGRESS ONLINE CATALOG

Help New Search Search History Headings List Titles List Request an Item Account Info Start Over

Try the new version: [Library of Congress Online Catalog](#)

DATABASE: Library of Congress Online Catalog
YOU SEARCHED: Title Keyword = semantic web
SEARCH RESULTS: Displaying 1 of 1.

Previous Next

Brief Record Subjects/Content Full Record MARC Tags

International journal on Semantic Web and information systems.

Relevance: ★★★★★

LC control no.: 2004214933

LCCN permalink: <http://lccn.loc.gov/2004214933>

Type of material: Serial (Periodical, Newspaper, etc.)

Main title: International journal on Semantic Web and information systems.

Published/Created: Hershey, PA : Idea Group

Publication history: Began with v. 1, no. 1 (Jan./Mar. 2005).

Description: volumes ; 26 cm

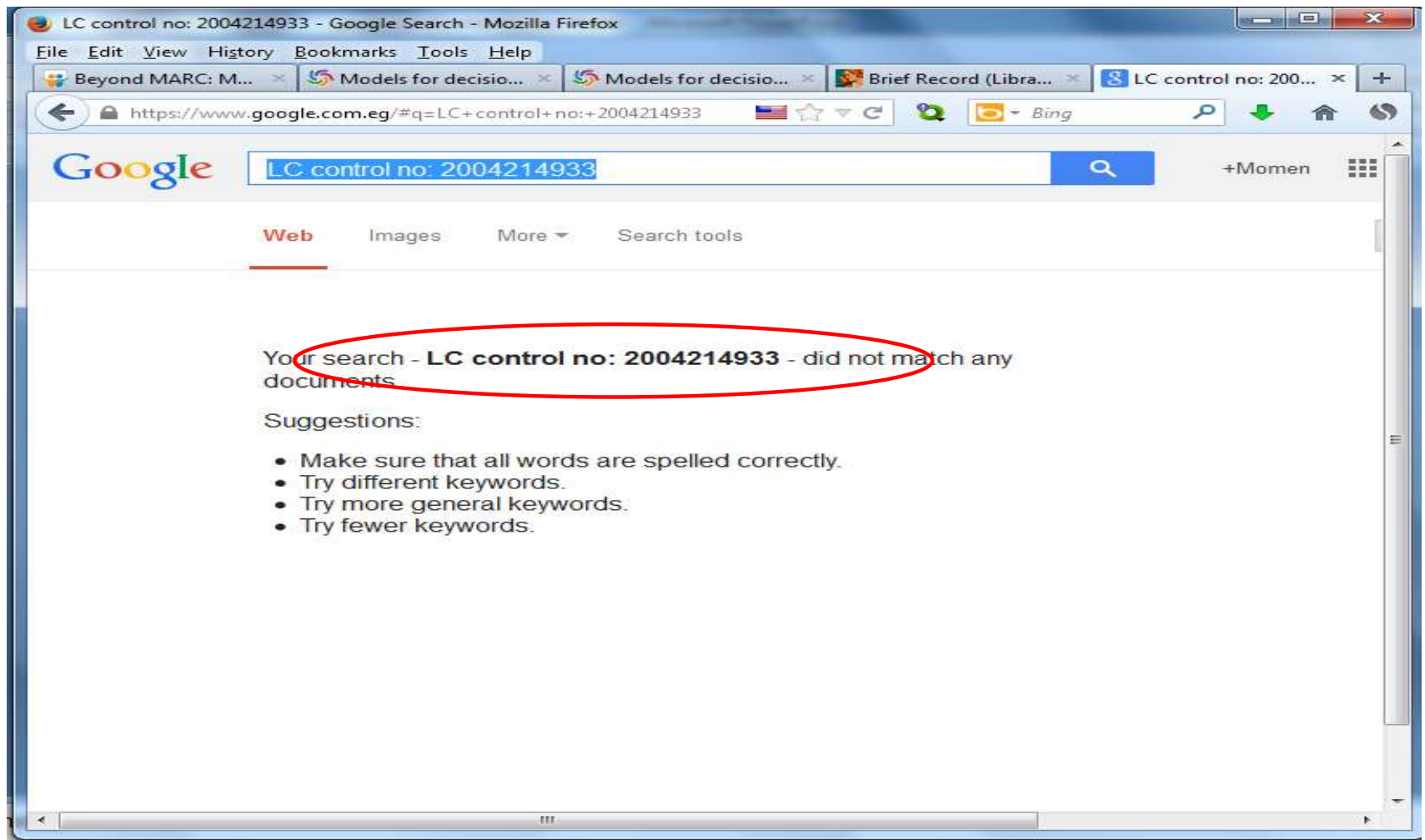
ISSN: 1552-6283

Linking ISSN: 1552-6283

CALL NUMBER: [TK5105 .88815 .I58](#)
Set 1

Request in Jefferson or Adams Building Reading Room

It Doesn't Be A Result In Search Engines Results



The Reasons Are:

our data are not in

Google

Why?

Google does not understand:

Marc, ISBD, OAI-PMH, RDA, Z39.50, Onix ...

So, let's developing many Initiatives



```
<!DOCTYPE motd [ <!  
<motd>  
<!-- created: 2003-12-12-->  
<sentence>Do not throw  
out the <keep>baby</>  
with the  
<refuse>dirty</>,R  
<refuse>stinky</>  
<refuse>bathwater</>.  
</>  
<!-- finish this later-->  
</motd>
```

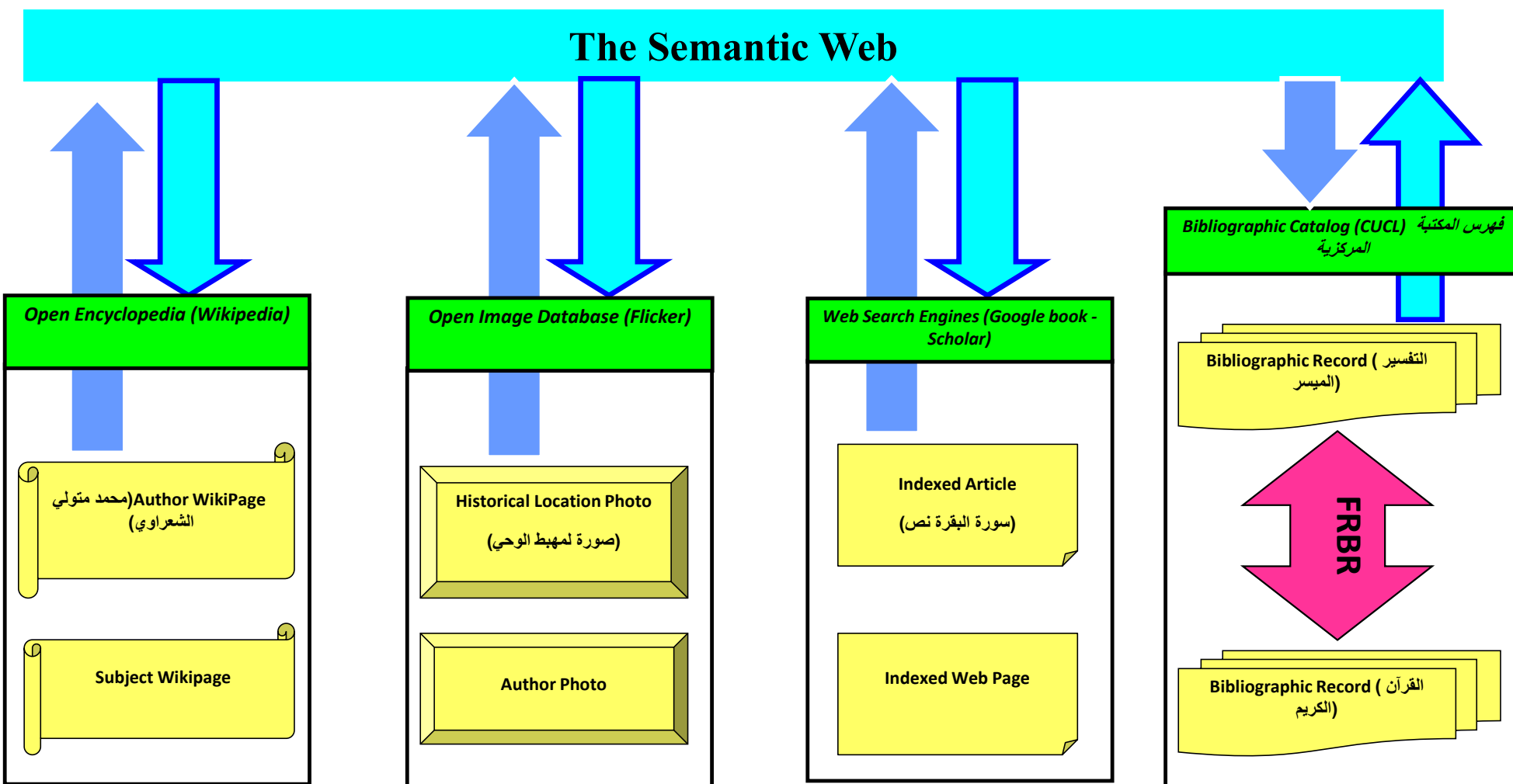
SGML



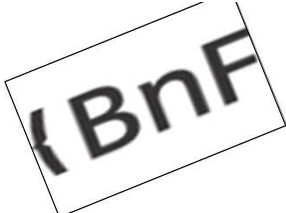
Linked data



Finally, we did it !!!



Library Catalogues & Knowledge Integration



BIBFRAME

In November 2012, the Library of Congress launched The Bibliographic Framework initiative,

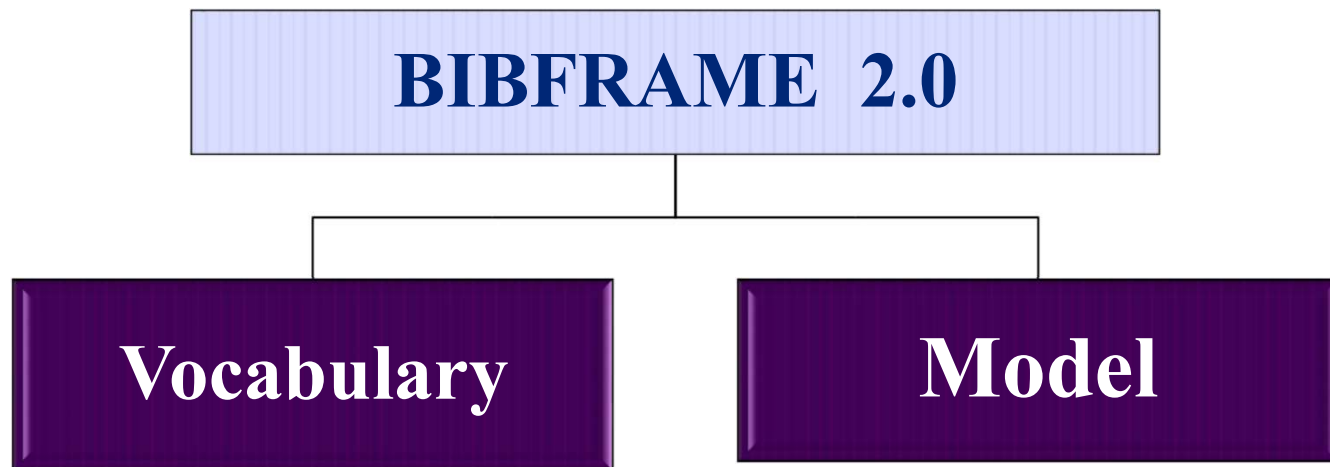
the goal is providing a complete and rich bibliographic description format that integrates indexes with other search tools on the Web.



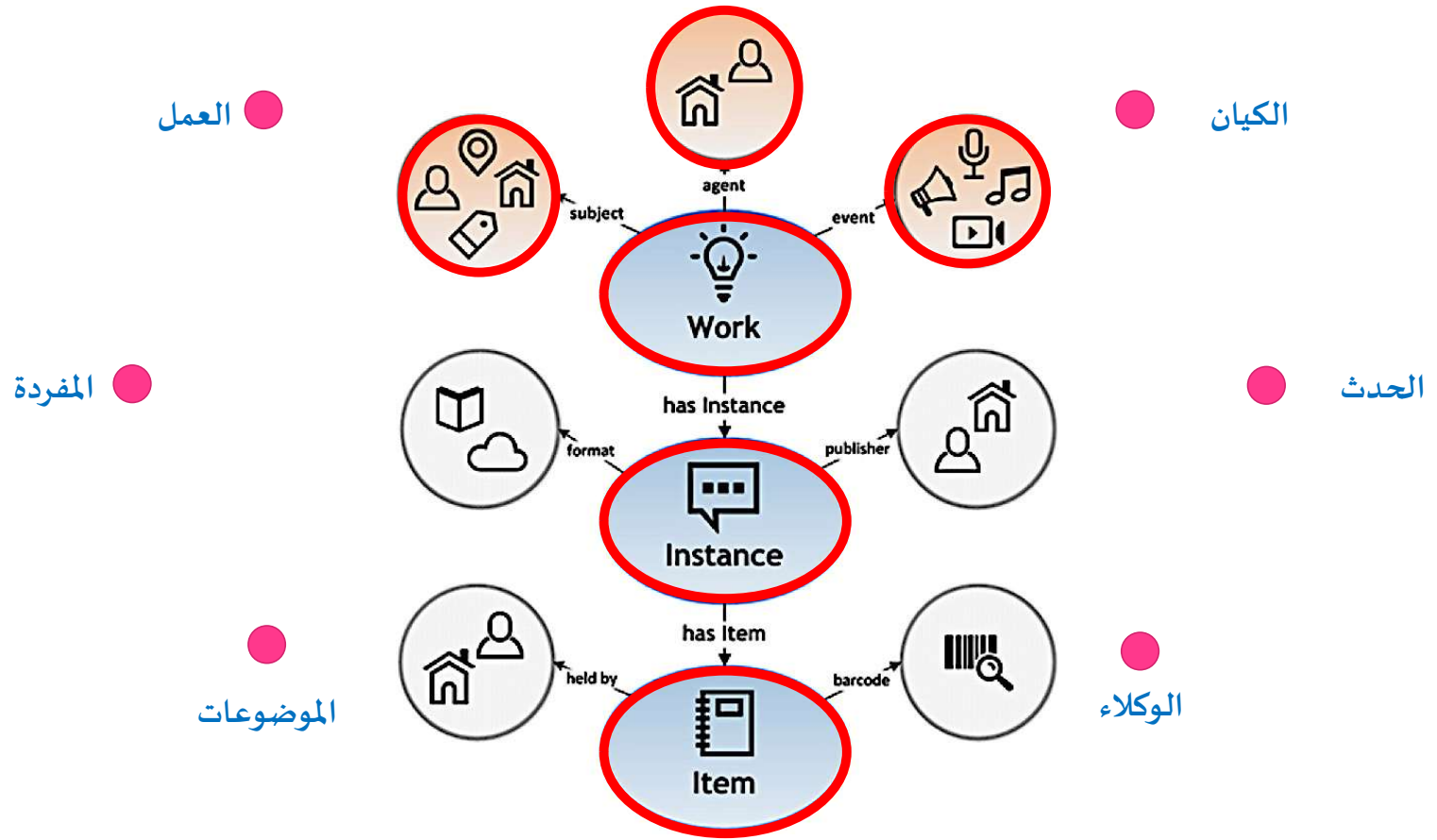
**Bibliographic Framework as a
Web of Data:
Linked Data Model and Supporting
Services**

**Library of Congress
Washington, DC
November 21, 2012**

BIBFRAME Architecture



Bibframe Model



BIBFRAME Vocabulary

file:///Users/momen/PhD/Ph.D.%20Thesis/Ph.D.الرسالة20%مصححة/(Bibliographic%20Framework) موقع مبادرة الإطار الببليوجرافي «
الصفحة الرئيسية / المحرر

عنصر وصف العمل وفقا لقواعد وام - السلاسل والدوريات

المنشئ الرئيسي المنشئون الآخرون

العنوان

العنوان

شكل العمل

تاريخ العمل (RDA 6.4)

المكان

السمات الأخرى المميزة للعمل (RDA 6.6)

طبيعة المحتوى (RDA 7.2)

التغطية الزمنية أو الجغرافية للمحتوى (RDA 7.3)

الجمهور المقصود (RDA 7.7)

الأشخاص والأسر والهيئات الأخرى ذات الصلة بالعمل

الأسر (قائمة رؤوس موضوعات مكتبة الكونجرس) الهيئات الأشخاص المكان الموضوعات

بيانات تصنيف ديوي العشري

الأعمال المرتبطة

تبصرة المحتويات (LC-PCC PS 25.1)

إنشاء تسجيلية لمصدر

المفردات

النوت الموسيقية

السلاسل والدوريات

الخرائط

DVD, BlueRay الأقراص الرقمية

الأفلام ذات خاصية 35 ملم

Audio CD الملفات الصوتية

(RDA 19.2) منشئ العمل

(RDA 6.2.2) العنوان المفضل للعمل

(RDA 6.2.3) العنوان البديل للعمل

(RDA 6.3) شكل العمل

(RDA 6.4) تاريخ العمل

(RDA 6.5) مكان العمل الأصلي

(RDA 6.6) السمات الأخرى المميزة للعمل

(RDA 7.2) طبيعة المحتوى

(RDA 7.3) التغطية الزمنية أو الجغرافية للمحتوى

(RDA 7.7) الجمهور المقصود

(RDA 19.3) الأشخاص، الأسر، الهيئات الأخرى المرتبطة بالعمل

(RDA Chapter 23) موضوعات العمل

(RDA Chapter 23) تصنيف ديوي العشري

(RDA Chapter 25 and Appendix J) الأعمال ذات الصلة

(LC-PCC PS 25.1) تبصرة المحتويات

Now we have SW OPACS

The screenshot shows the LIBRIS OPAC interface in a Mozilla Firefox browser window. The address bar shows the URL `libris.kb.se/bib/5060570`. The search bar at the top contains the text "difference engine", which is circled in blue. Below the search bar, the search results for "The difference engine" by William Gibson and Bruce Sterling are displayed. The book details include the authors' names, ISBN, and publication information. To the right of the book details, there is a section titled "Search outside LIBRIS" which lists several external search options, including "Google", "Google Book Search", "Google Scholar", "Scirus", and "LibraryThing". This list is circled in red. The interface also includes navigation buttons like "Previous record", "Next record", and "To hitlist", as well as options to "Save", "Cite", "Email", and "Permalink".

LIBRIS - The difference engine / - Mozilla Firefox

File Edit View History Bookmarks Tools Help

Google Translate LIBRIS - The difference engine /

libris.kb.se/bib/5060570

HELP | PÅ SVENSKA | PREFERENCES | MY LIBRARIES | CLEAR HISTORY

Start Extended search Index A-Ö Boolean Subdatabases Search history

difference engine Search My libraries

Search: difference engine - The difference engi...

2 of 21 Previous record Next record To hitlist

Overview Details

The difference engine / William Gibson and Bruce Sterling

Gibson, William, 1948- (author)
Sterling, Bruce, 1954- (author)
ISBN 0-575-60029-2 (pbk)
London : Vista, 1996
English 383 s.
Book

Subject headings

SAVE CITE EMAIL Permalink

Search further

Related titles

Search outside LIBRIS

Title in Google Book Search:
Search:
- The difference engi...
Extend your search to:
- Google
- Google Book Search
- Google Scholar
- Scirus
- LibraryThing

Wikipedia about the author:
- William Gibson

The Semantic Web OPACs

William Gibson - Wikipedia, the free encyclopedia - Mozilla Firefox

en.wikipedia.org/wiki/William_Gibson

William Gibson

From Wikipedia, the free encyclopedia

For other people named William Gibson, see *William Gibson (disambiguation)*.

William Ford Gibson (born March 17, 1948) is an American-Canadian speculative fiction novelist who has been called the "noir prophet" of the *cyberpunk* subgenre.^[2] Gibson coined the term "*cyberspace*" in his short story "*Burning Chrome*" (1982) and later popularized the concept in his debut novel, *Neuromancer* (1984). In envisaging cyberspace, Gibson created an *iconography* for the information age before the ubiquity of the Internet in the 1990s.^[3] He is also credited with predicting the rise of *reality television* and with establishing the conceptual foundations for the rapid growth of virtual environments such as video games and the *World Wide Web*.

Having changed residence frequently with his family as a child, Gibson became a shy, ungainly teenager who often read science fiction. After spending his adolescence at a private boarding school in *Arizona*, Gibson *evaded the draft* during the *Vietnam War* by emigrating to *Canada* in 1968, where he became immersed in the *counterculture*. After settling in *Vancouver* he eventually became a full-time writer. He retains *dual citizenship*.^[4] Gibson's early works are bleak, noir near-future stories about the effect of *cybernetics* and *computer networks* on humans—a "combination of lowlife and high tech".^[5] The short stories were published in popular science fiction magazines. The themes, settings and characters developed in these stories culminated in his first novel, *Neuromancer*, which garnered critical and commercial success, virtually initiating the *cyberpunk* literary genre.

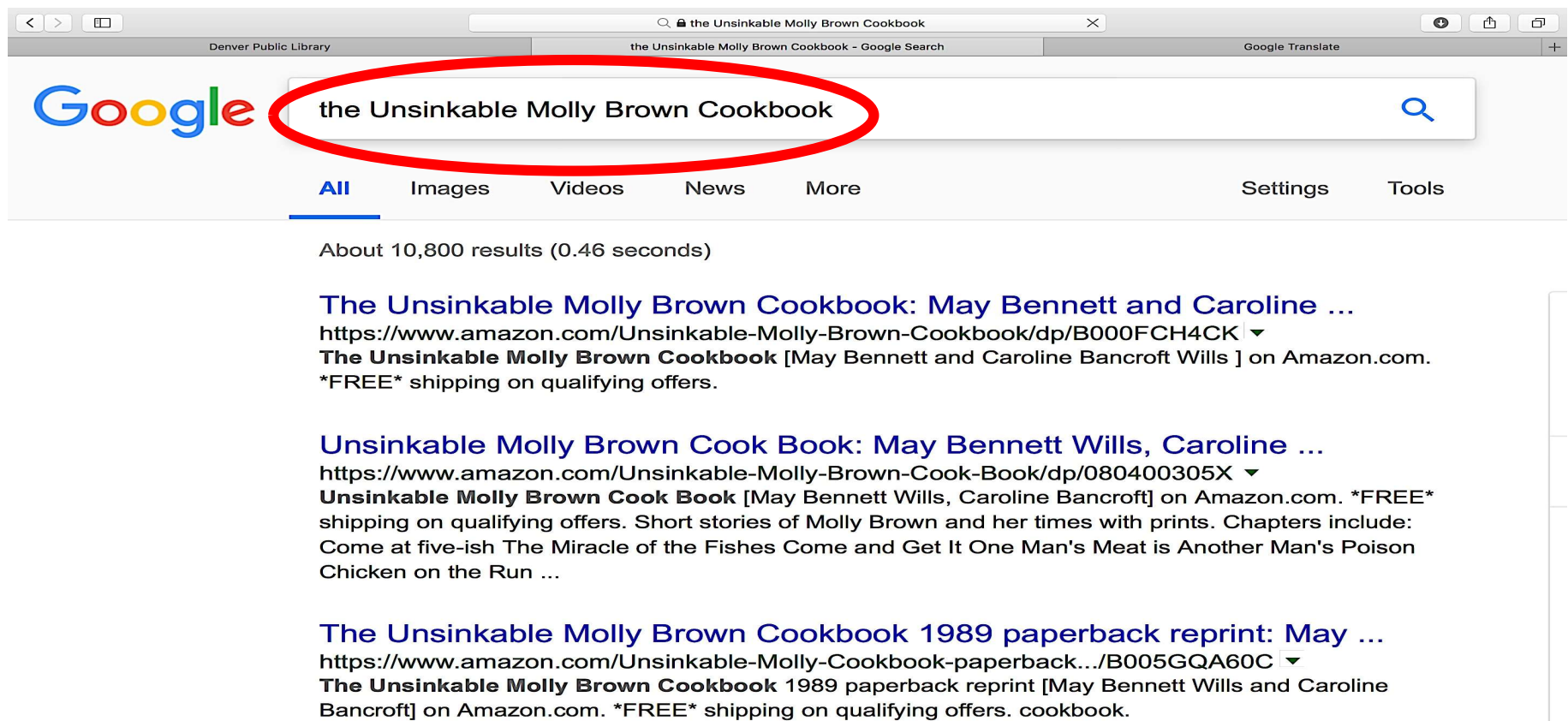
Although much of Gibson's reputation has remained associated with *Neuromancer*, his work has continued to evolve. After expanding on *Neuromancer* with two more novels to complete the dystopic *Sprawl* trilogy, Gibson became an important author of another

William Gibson

Gibson on his 60th birthday in Paris during a promotional interview for the French release of *Spook Country* (March 17, 2008)

Born William Ford Gibson
March 17, 1948 (age 65)
Conway, South Carolina, U.S.

Let's Try Again !!!



A screenshot of a web browser showing a Google search for "the Unsinkable Molly Brown Cookbook". The search bar is highlighted with a red oval. The search results show three entries, all from Amazon.com, with the first two mentioning "*FREE* shipping on qualifying offers".

Denver Public Library | the Unsinkable Molly Brown Cookbook - Google Search | Google Translate

Google

[All](#) [Images](#) [Videos](#) [News](#) [More](#) [Settings](#) [Tools](#)

About 10,800 results (0.46 seconds)

The Unsinkable Molly Brown Cookbook: May Bennett and Caroline ...
<https://www.amazon.com/Unsinkable-Molly-Brown-Cookbook/dp/B000FCH4CK> ▼
The Unsinkable Molly Brown Cookbook [May Bennett and Caroline Bancroft Wills] on Amazon.com. *FREE* shipping on qualifying offers.

Unsinkable Molly Brown Cook Book: May Bennett Wills, Caroline ...
<https://www.amazon.com/Unsinkable-Molly-Brown-Cook-Book/dp/080400305X> ▼
Unsinkable Molly Brown Cook Book [May Bennett Wills, Caroline Bancroft] on Amazon.com. *FREE* shipping on qualifying offers. Short stories of Molly Brown and her times with prints. Chapters include: Come at five-ish The Miracle of the Fishes Come and Get It One Man's Meat is Another Man's Poison Chicken on the Run ...

The Unsinkable Molly Brown Cookbook 1989 paperback reprint: May ...
<https://www.amazon.com/Unsinkable-Molly-Cookbook-paperback.../B005GQA60C> ▼
The Unsinkable Molly Brown Cookbook 1989 paperback reprint [May Bennett Wills and Caroline Bancroft] on Amazon.com. *FREE* shipping on qualifying offers. cookbook.

Let's Try Again !!!



Edgewear,Rubbing,And Back Has Some StainingAll books shipped with trac.

The Unsinkable Molly Brown cookbook in SearchWorks catalog

<https://searchworks.stanford.edu/view/9734480> ▼

The Unsinkable Molly Brown cookbook. Responsibility: by May Bennett Wills and Car
Imprint: Denver : Sage Books, [1966]: Physical description: 118 p. : ill., port. ; 22 cm.

Denver Public Library Catalog

<https://catalog.denverlibrary.org/search/title.aspx?cn=32231> ▼

The unsinkable Molly Brown cookbook / by May Bennett Wills and Caroline Bancroft.
May Bennett. Call Number: 641.5 W685un. Publisher, Date: Denver : Sage Books, 1966.
118 p. : ill., port. ; 22 cm. Subjects: Cooking. Colorado -- Imprints -- Denver -- 1966. Other
Brown, Margaret Tobin ...

The Unsinkable Molly Brown cookbook / by May Bennett Wills a

nla.gov.au/anbd.bib-an658314 ▼

The Unsinkable Molly Brown cookbook / by May Bennett Wills and Caroline Bancroft.
May Bennett. Other Authors. Bancroft, Caroline. (joint author.) Brown, Margaret (Tobin).

Now We Have Smart OPACS

Language ▾

 **DENVER PUBLIC LIBRARY**

[DPL Home](#) [Catalog](#) [Search ▾](#) [My Account ▾](#)

DISPLAYING 1 OF 1

 1966

Title: The unsinkable Molly Brown cookbook / by May Bennett Wills and Caroline Bancroft.

Author: Wills, May Bennett.

Call Number: 641.5 W685un

Publisher, Date: Denver : Sage Books, 1966.

Description: 118 p. : ill., port. ; 22 cm.

Subjects: Cooking.
Colorado -- Imprints -- Denver -- 1966.

Other Author: Brown, Margaret Tobin, 1867-1932.

Notes: Includes index.

[EXPAND ALL](#) | [COLLAPSE ALL](#)

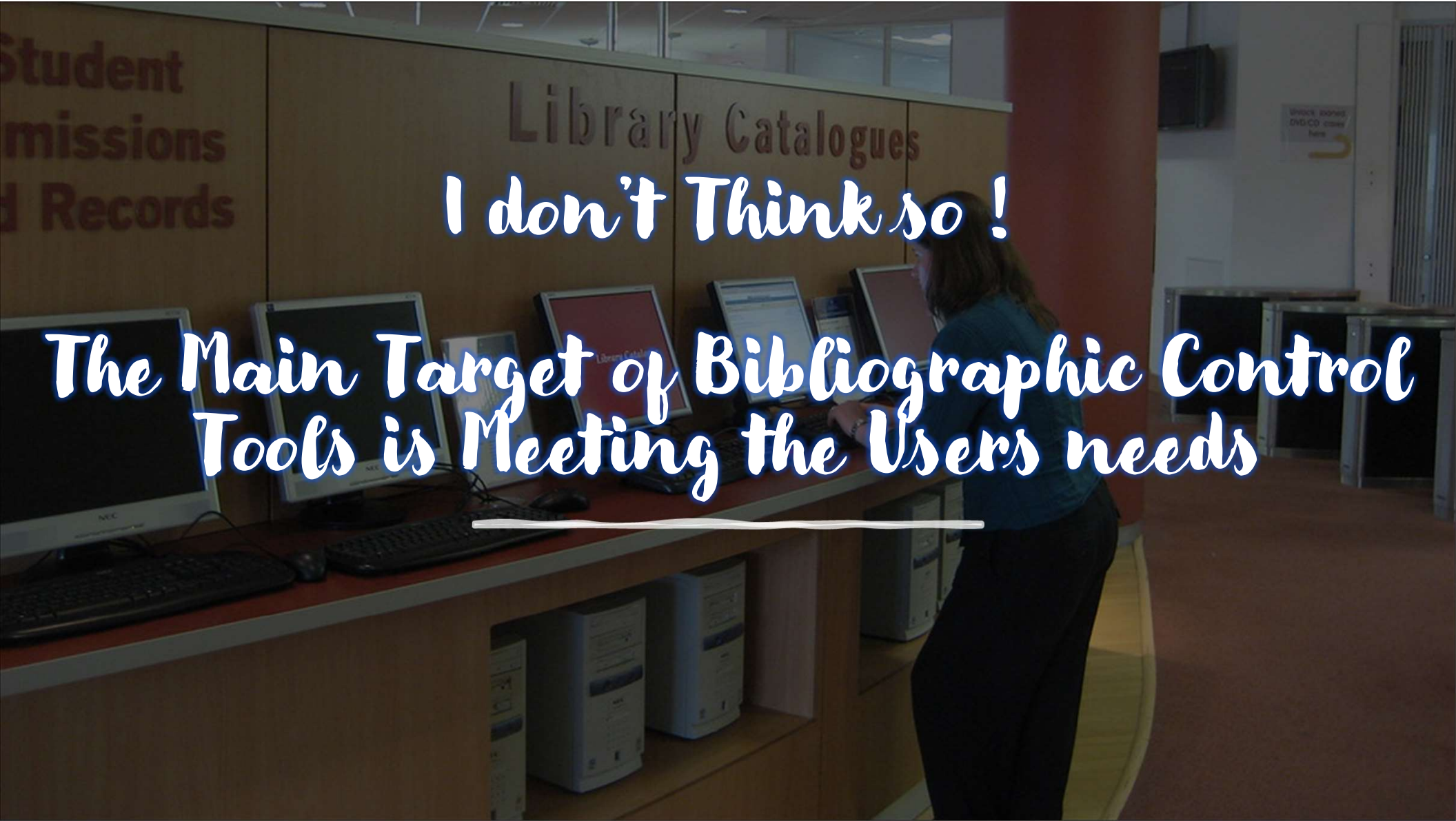
▾ [Where Is It?](#)

Call Number	Shelf Location	Status	Circ Date	Type
▾ Central Library (0 of 1 available)				



Now
OPACs Are Integrated !!

It was Finished?



Student
missions
Records

Library Catalogues

I don't Think so !

The Main Target of Bibliographic Control
Tools is Meeting the Users needs

- *By helping Users to:*
- *Searching,*
 - *Find,*
 - *Identify,*
 - *Select,*
 - *Acquire or Obtain Access,*
 - *Navigate*
 - *and Explore Information Resources*





But!
Is it the Only Help They
are Asking for?

A photograph of a business meeting with several people in professional attire. One person is pointing at a tablet displaying a document. The text is overlaid in a white, cursive font with a blue glow effect.

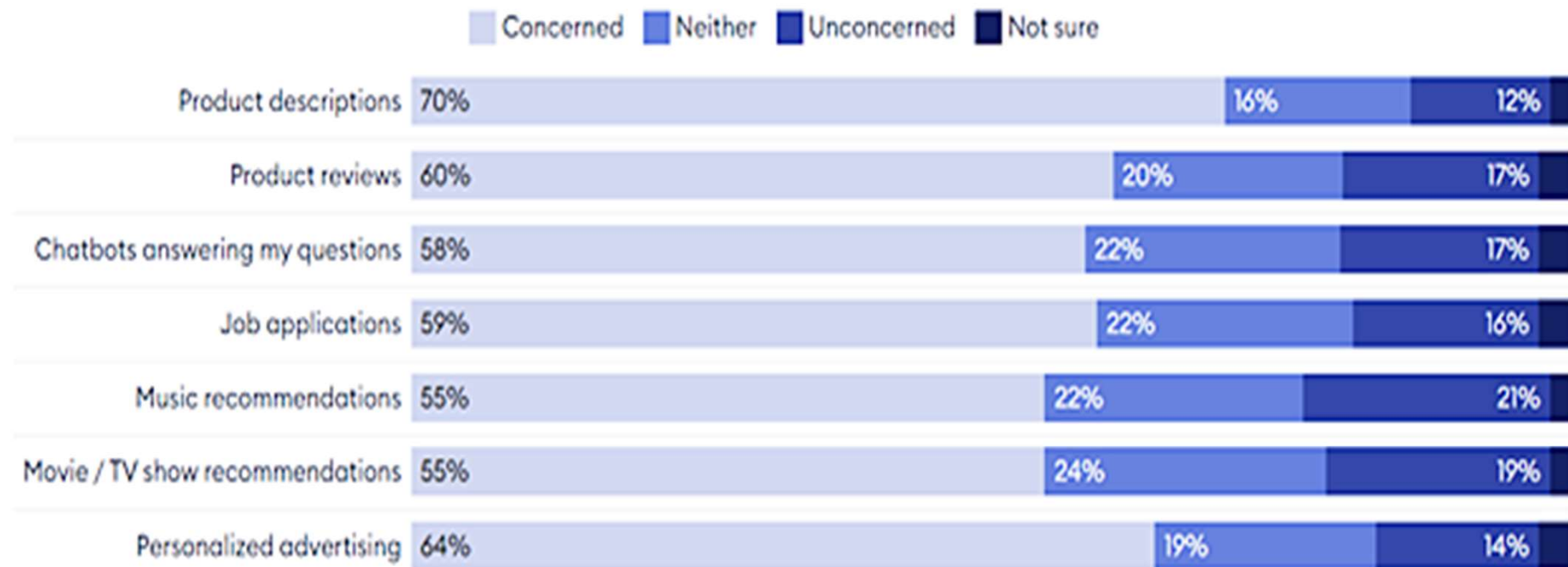
*Few Years Later !
Many Surveys has been Conducted,
Confirming that Usage Stats of AI
Search Tools will take a Charge of
Meeting Users Need*

Users going to AI Search Tools Stats

- 37% of people in advertising and marketing.
- 35% of people in technology.
- 30% of people in consulting.
- 19% of people in accounting.
- 15% of people in healthcare.



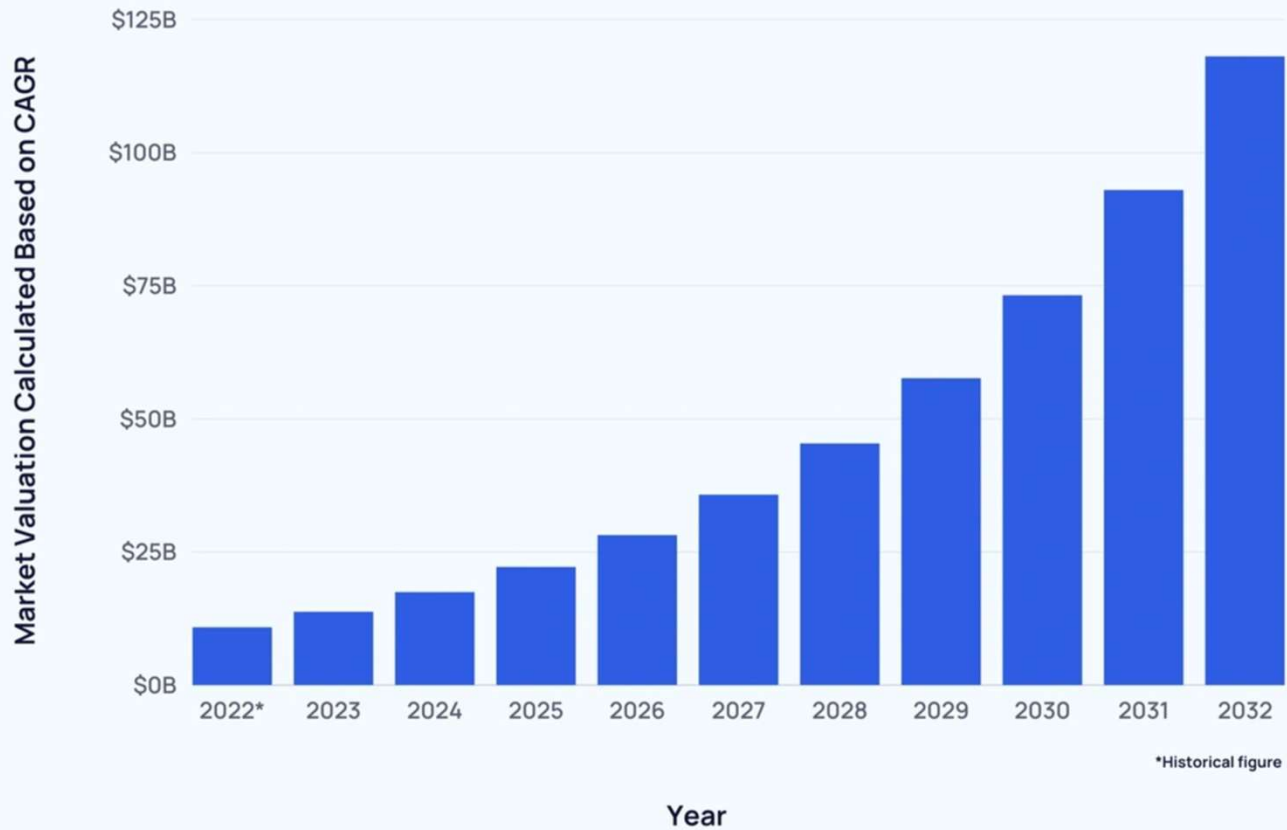
Types of Content Where Consumers are Concerned with Artificial Intelligence Being Used



Source: Forbes Advisor • Embed

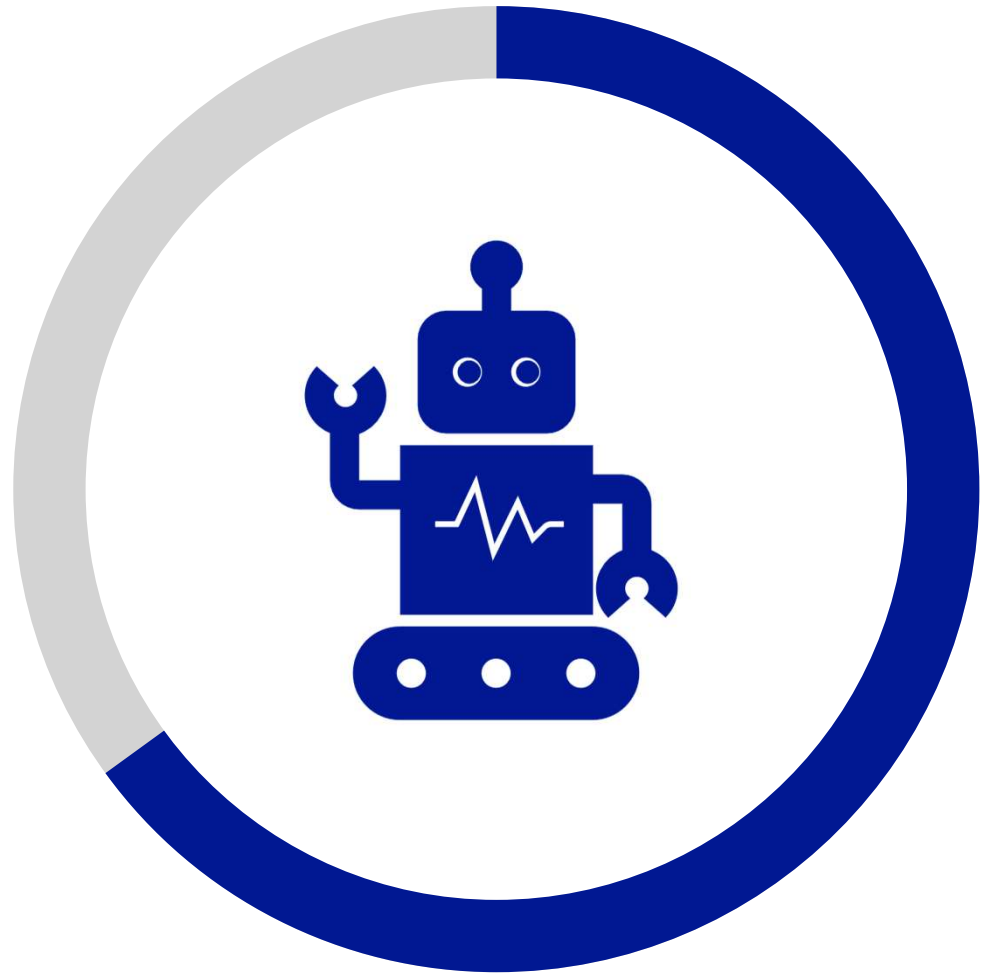
Forbes ADVISOR

Generative AI Market Growth Projections



According to Forbes

Despite having concerns about application of AI in various businesses and verticals, 65% of consumers have trust in the businesses which use AI technology.





*More than
quarter of people
in the UK (26%)
Moving to use
Generative AI
Search Tools,*


*According to new findings from Deloitte's
2023 Digital Consumer Trends research*



So,

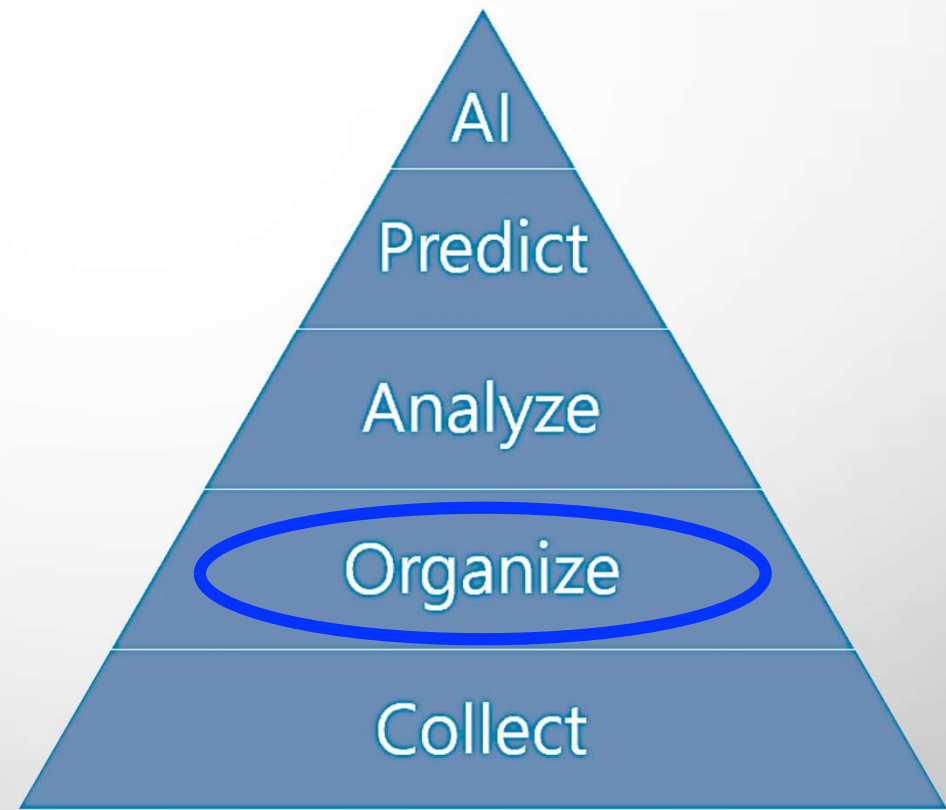
Why Users are going to Machines
(Generative AI) Tools rather than OPACs

Despite it maybe untrustful like
Bibliographic tools?

The background is a chalkboard filled with various hand-drawn business diagrams and sketches. These include flowcharts with boxes labeled 'PLAN', 'PROGRESS', and 'IDEA'; line graphs and bar charts; circular diagrams with arrows; and other abstract sketches. The text is overlaid on this background in a large, white, cursive font with a blue outline.

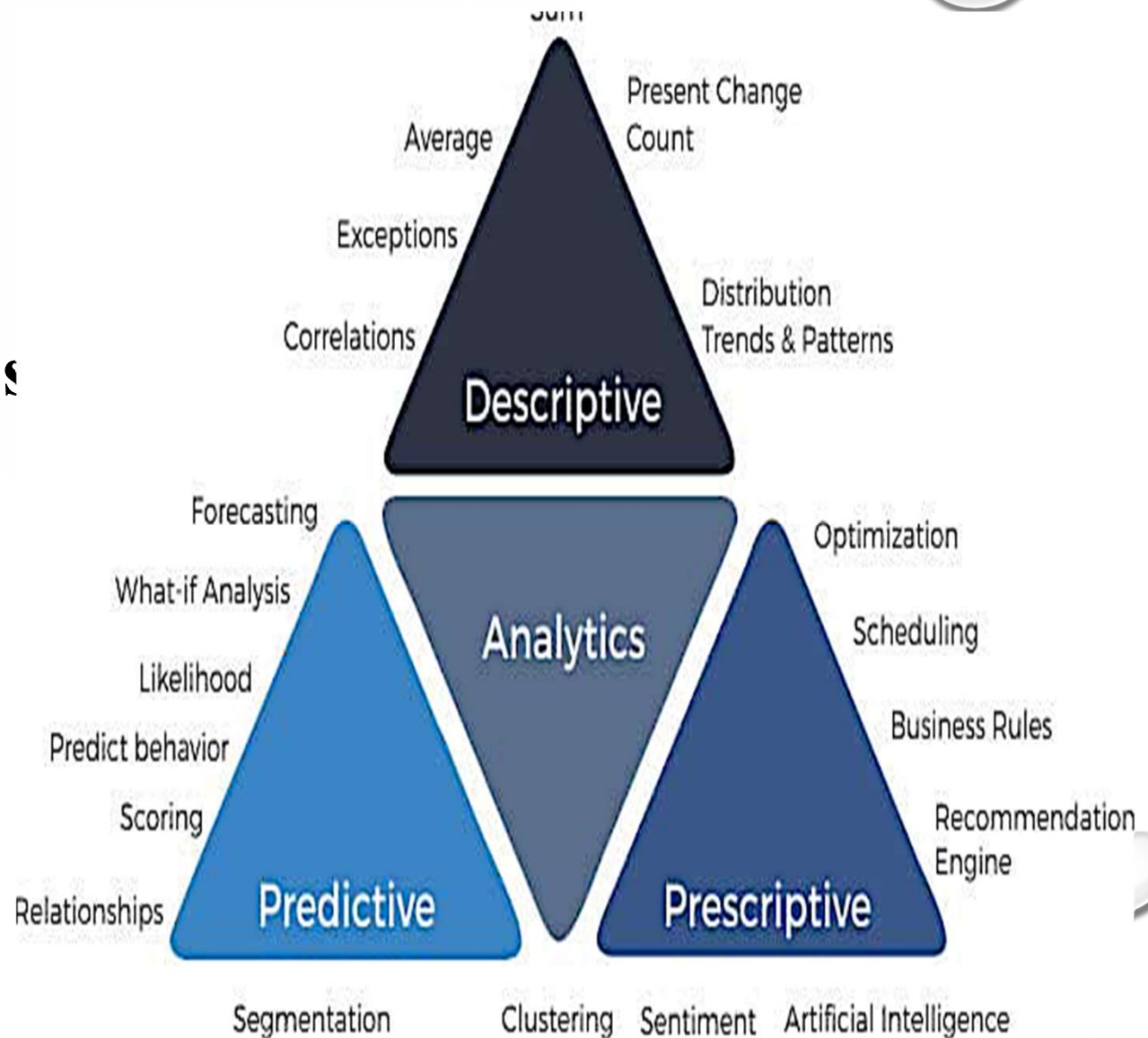
**Answer Returns to,
The Shortcomings of the Bibliographic Control,
It is Still Existing at Organizing Phase,
Didn't Moving to the Next Phases:
"Analysis, Integration, Predicting & Generating"**

***THE BIBLIOGRAPHIC
CONTROL FOCUS ON
ORGANIZING PHASE***



Where it Should Moving to next phases

“Analysis”
“Prediction”
&
“Generating”



*To Meet
Currently Users
Needs Which Are
Be ...*



Descriptive Needs → “What has happened in the present and past?”



Diagnostic Needs → “Why it Happened?”



Predictive Needs → “What could Happen in future?” (ML)



Prescriptive Needs → “What should be Done?” (Gen. AI)



How Can Make UBC Meets Users Needs?

Or

*Backing to the Main Question that
has been Asked in IFLA WLIC 2014 !!!*

Did The Digital Tide Knock UBC Out?"





Let's Exploring !!



As We had Known Previously,

*the Human being was
Responsible to Produce **Data** and
Control it ...*



But

Is It Still as Before ?



Exactly !

*the Machine is a New
Partner of Mankind to
Generate Data !!!*

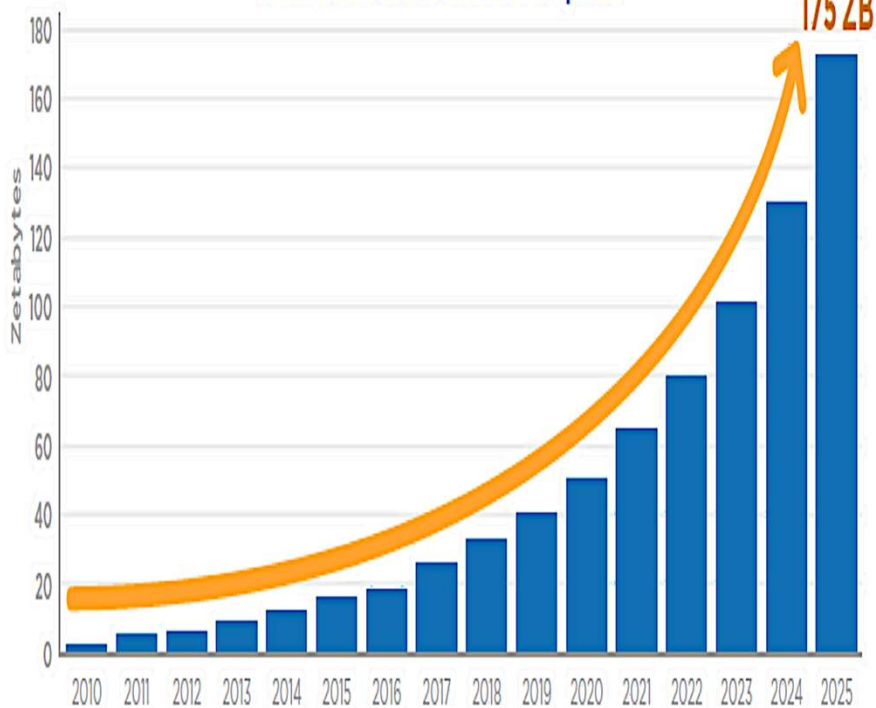
A blue-toned image of a robot's legs standing on a surface of glowing data points. The robot is positioned in the center, with its legs spread apart. The background is dark, and the data points are scattered across the surface, creating a sense of depth and complexity. The overall mood is futuristic and technological.

But!

**Is it good a Machine to be a
Human Partner in Data
Production?**

AI IDC Announcement

Annual Size of the Global Datasphere



Source: Data Age 2025, sponsored by Seagate with data from IDC Global DataSphere, Nov 2018

- *The International Data Corporation Annual Report (IDC) In 2011 Indicated, The Data Volume that Generated have Reached to 1021 Trillion Exabytes Of Data..*
- *The Data Volume has Doubled About 9 times than before,*
- *These Numbers can be considered as Alarm, and as Declaration to Great Phenomenon, that will be*

BIG DATA





So,

What is Big Data



What is Big Data

*“... Refers to Data that is so **Large, Fast** , and **Unstructured** or Complex that it's Difficult or Impossible to Process Using Classic Methods (as **Bibliographic Control**) and Techniques ...”*

Size of Data



4,392,844,378

Internet Users in the world



1,728,794,416

Total number of Websites



241,920,112,418

Emails sent **today**



6,403,934,886

Google searches **today**



6,107,136

Blog posts written **today**



711,551,061

Tweets sent **today**



6,633,032,954

Videos viewed **today**
on YouTube



77,615,781

Photos uploaded **today**
on Instagram



131,459,538

Tumblr posts **today**



2,358,706,602

Facebook active users



762,388,249

Google+ active users



353,762,260

Twitter active users






AI How much...?

THE INTERNET IN **2023** EVERY MINUTE




Created by: eDiscovery Today & LTMG

AI Big Data Features

VOLUME	VARIETY	VELOCITY	VERACITY	VALUE
<p>The amount of data from myriad sources.</p>	<p>The types of data: structured, semi-structured, unstructured.</p>	<p>The speed at which big data is generated.</p>	<p>The degree to which big data can be trusted.</p>	<p>The business value of the data collected.</p>
				



What's the Nature
of These Data?



Unstructured Data

Unstructured Data

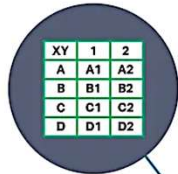
- *Unstructured data refers to data that lacks a predefined structure or organized format.*
- *This type of data does not fit neatly into traditional rows and columns like structured data found in databases.*
- *Unstructured data is typically more flexible in terms of content and format, making it challenging to manage and analyze using conventional data management tools and techniques.*

Structured Data

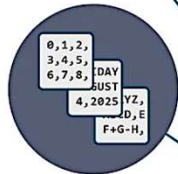
vs

Unstructured Data

Can be displayed in rows, columns and relational databases



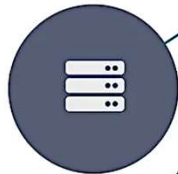
Numbers, dates and strings



Estimated 20% of enterprise data (Gartner)



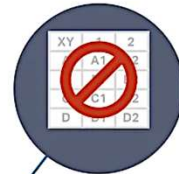
Requires less storage



Easier to manage and protect with legacy solutions



Cannot be displayed in rows, columns and relational databases



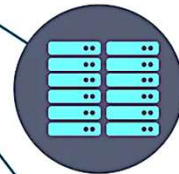
Images, audio, video, word processing files, e-mails, spreadsheets



Estimated 80% of enterprise data (Gartner)



Requires more storage











More difficult to manage and protect with legacy solutions

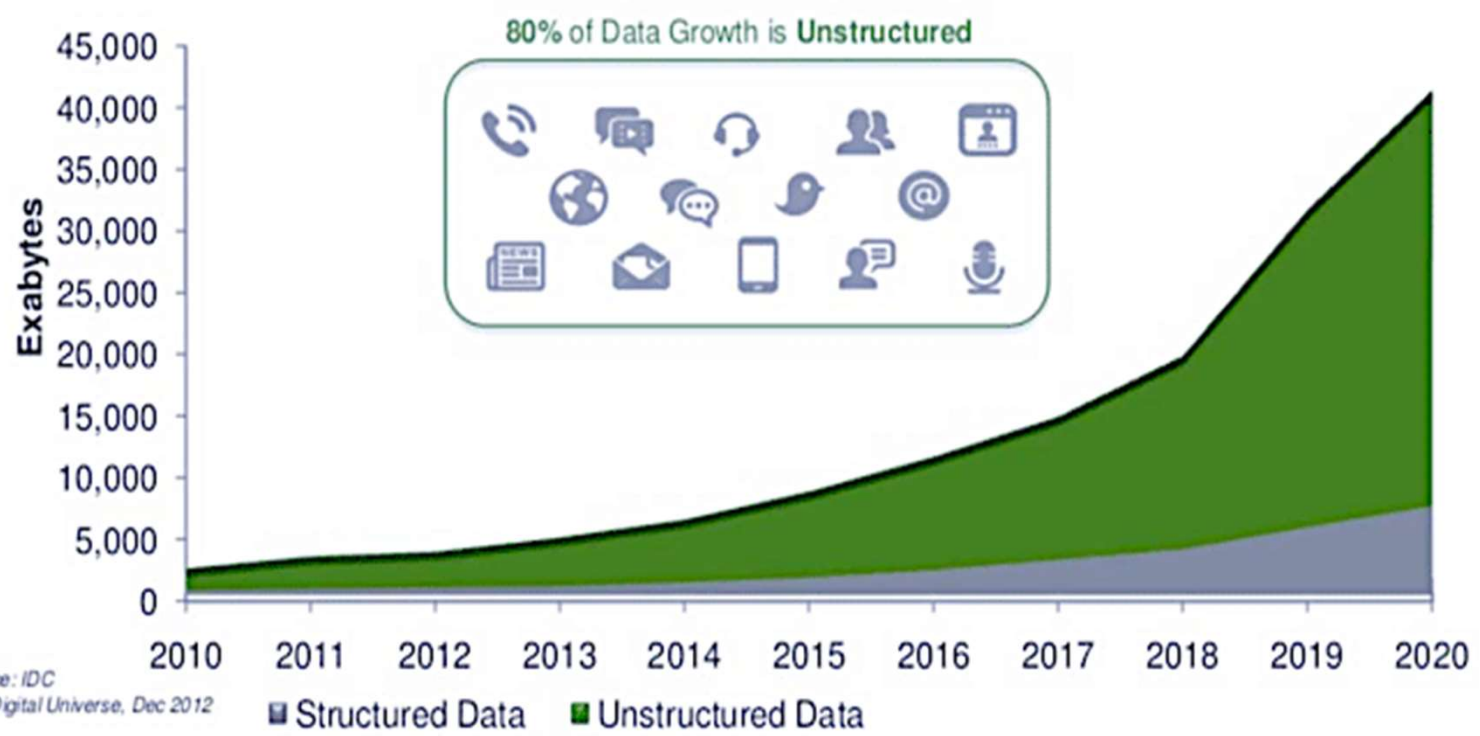




Unstructured Data Types

 <p>Text files and documents</p>	 <p>Server, website and application logs</p>	 <p>Sensor data</p>	 <p>Images</p>
 <p>Video files</p>	 <p>Audio files</p>	 <p>Emails</p>	 <p>Social media data</p>

AI Unstructured Data Size



A DAY IN DATA

The exponential growth of data is undisputed, but the numbers behind this explosion - fuelled by internet of things and the use of connected devices - are hard to comprehend, particularly when looked at in the context of one day

DEMYSTIFYING DATA UNITS

From the more familiar 'bit' or 'megabyte', larger units of measurement are more frequently being used to explain the masses of data

Unit	Value	Size
b	0 or 1	1/8 of a byte
B	8 bits	1 byte
KB	1,000 bytes	1,000 bytes
MB	1,000 ² bytes	1,000,000 bytes
GB	1,000 ³ bytes	1,000,000,000 bytes
TB	1,000 ⁴ bytes	1,000,000,000,000 bytes
PB	1,000 ⁵ bytes	1,000,000,000,000,000 bytes
EB	1,000 ⁶ bytes	1,000,000,000,000,000,000 bytes
ZB	1,000 ⁷ bytes	1,000,000,000,000,000,000,000 bytes
YB	1,000 ⁸ bytes	1,000,000,000,000,000,000,000,000 bytes

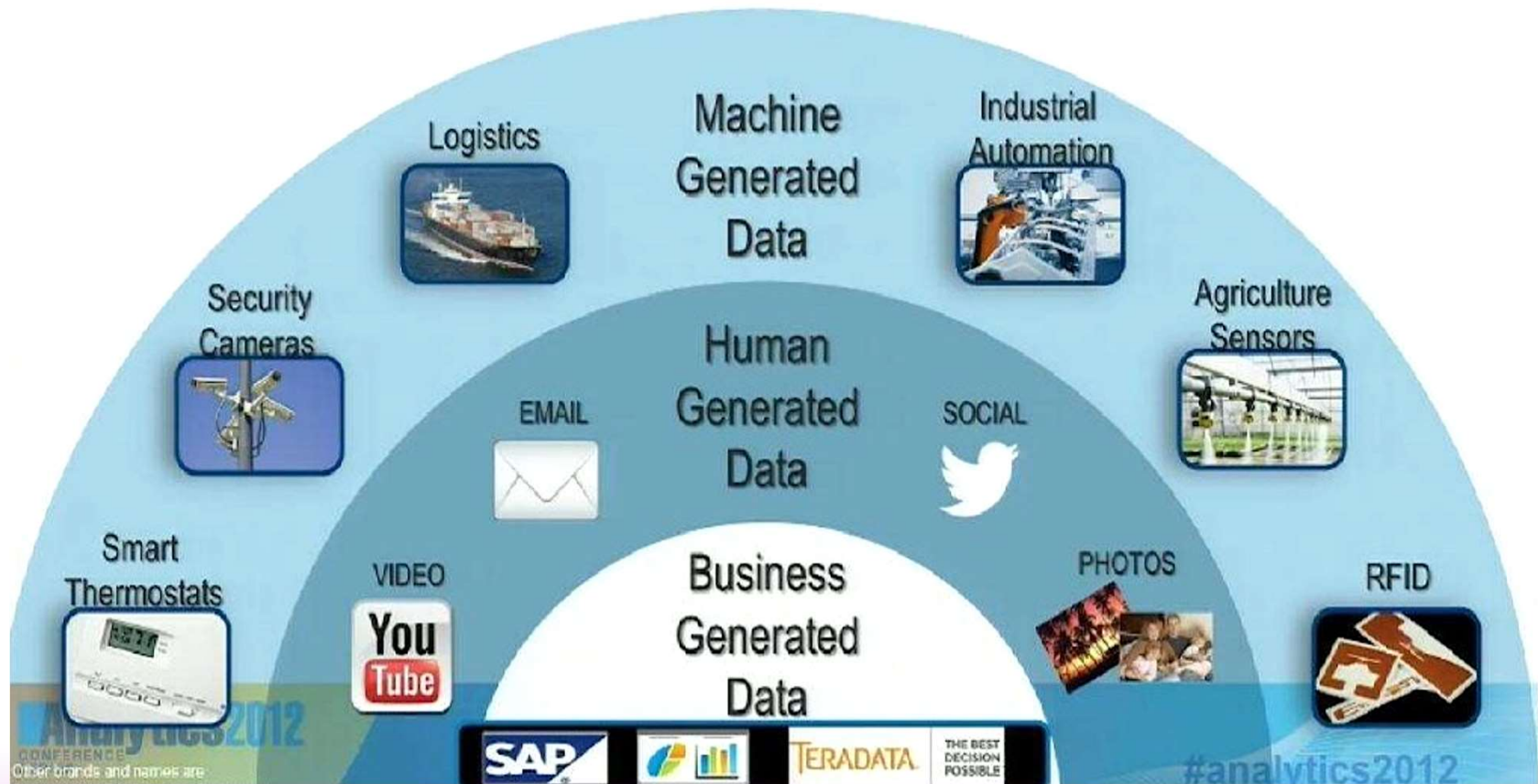
463EB

of data will be created every day by 2025



A

From Three Resources !!!



CONFERENCE
Other brands and names are

#analytics2012

The Common Sources of Big Data:

- **Social Media.**
- **IoT Devices.**
- **Online Transactions.**
- **Digital Media.**
- **Log Files.**
- **Sensor Networks.**
- **Genomic Data.**
- **Scientific Research.**
- **Government and Public Data.**
- **Text and Documents.**
- **Financial Data.**
- **Geospatial Data.**





The 2nd Q:

How Machines Can Generated Data?

Based on Three phases

- *Knowledge Representation.*
- *Knowledge Understanding.*
- *Knowledge Generation.*

1st phase:

Knowledge Representation

- *Knowledge representation is a fundamental concept in artificial intelligence (AI).*
- *It refers to the process of capturing and structuring information in a way that can be understood, processed, and manipulated by computers or intelligent agents.*
- *The goal of knowledge representation is to create a formal system or framework that allows computers to reason, make inferences, and draw conclusions from the stored information.*

Knowledge Representation Tools



- *Semantic Networks.*
- *Frames:*
- *Ontologies:*
- *Neural Network Embeddings:*

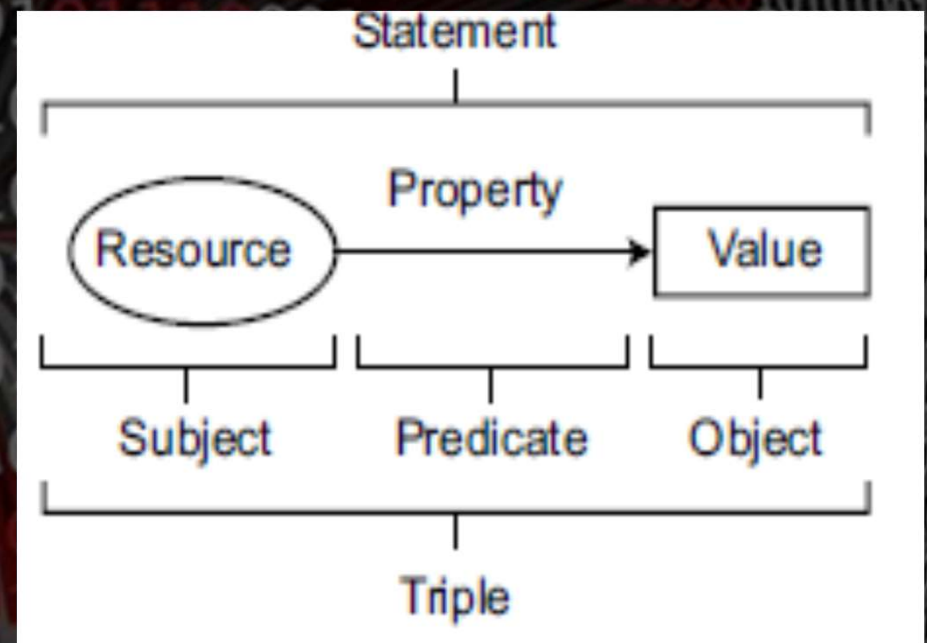
Semantic Networks

Semantic Networks: These represent knowledge as nodes (objects or concepts) connected by edges (relationships). They are easy to understand but can become complex for large knowledge bases.

Frames

Like (BIBFRAME - RDF)

Frames organize knowledge into structured units, with attributes and slots that define properties and relationships of objects or concepts. They are used for representing structured information about objects or events.





Ontologies

Ontologies are formal models that define concepts, their relationships, and properties within a specific domain. They provide a common vocabulary for various AI systems to communicate and reason about shared knowledge.

Probabilistic Representations

In situations involving uncertainty, probabilistic models can be used to represent knowledge using probabilities and statistical methods.

Neural Network Embeddings

In more recent years, techniques like word embeddings and neural network-based models have been used to capture semantic relationships between words and concepts, enabling AI systems to understand and represent knowledge in a distributed and continuous manner.

2nd phase:

Knowledge Understanding !

Knowledge Understanding Is the Machines Ability to Comprehend and Make Sense of Information.



It is the process of extracting meaning from data and using that meaning to answer questions, solve problems, and make decisions.

Knowledge Understanding

Knowledge understanding is a complex process that involves multiple cognitive skills, such as:

- **Machine Attention:** The ability to focus on relevant information and ignore irrelevant information.
- **Machine Memory:** The ability to store and retrieve information.
- **Comprehension:** The ability to understand the meaning of information.
- **Inference:** The ability to draw conclusions from information.
- **Evaluation:** The ability to assess the quality of information.



Let's Try

The Result !!!

Barack Hussein **Obama II** is an **American politician, lawyer, and author** who served as the 44th **president** of the **United States** from 2009 to 2017. A member of the **Democratic Party**, Obama was the first African-American president of the United States.

Entities (Out of the Box Model)

Edit Text

Extraction Classification Linguistics Custom

Entities Keywords Concepts Relations

Name	Type	Confidence
Obama	Person	0.99
lawyer	JobTitle	0.91
author	JobTitle	0.70
president	JobTitle	0.97
United States	Location	0.81
Democratic Party	Organization	0.79

Based on Watson Discovery

IBM Cloud

Search resources and offerings...

Catalog Docs Support Manage

Select Watson services below to get started with your project

Simply pick one or more APIs from the catalog, click Add Services, and get your API credentials.

- Watson Assistant**
Watson Assistant lets you build conversational interfaces into any application, device, or channel.
Lite • IBM
- Watson Discovery**
Add a cognitive search and content analytics engine to applications.
Lite • IBM
- Natural Language Understanding**
Analyze text to extract meta-data from content such as concepts, entities, emotion, relations, sentiment and more.
Lite • IBM
- Speech to Text**
Low-latency, streaming transcription
Lite • IBM
- Text to Speech**
Synthesizes natural-sounding speech from text.
- Natural Language Classifier**
Natural Language Classifier uses advanced natural language processing

DETECTION !!!

The screenshot displays the IBM Watson Discovery interface for a search on 'information science'. The top navigation bar shows 'Instance: master'. The search results summary indicates 1 document found, with 0 documents failed. The document was created and last updated on 3/18/2021 at 8:18:59 am EDT. An 'Upload documents' button is visible.

Under the 'Identified 1 field from your data' section, a 'text' field is listed. A link 'Need to identify more fields? Add fields' is provided.

The 'Added 4 enrichments to your data' section highlights two results with red boxes:

- Entity Extraction:** AI (1) | Amazon (1) | Apple (1) | Bell (1) | Bell Tower (1)
- Concept Tagging:** Academic library (1) | Edward Feigenbaum (1) | Intelligence (1) | Learning (1)

Other enrichment results include:

- Sentiment Analysis:** 100% positive, 0% neutral, 0% negative.
- Category Classification:** education → homework and study...

The 'Now you're ready to query!' section offers three query options, each with a 'Run' button:

- Entities of type **Company** which have positive sentiment
- Most common entity types and their top entities
- Documents that contain **Academic library**, but not **Edward Feigenbaum**

The URL at the bottom is: `us-south.discovery.watson.cloud.ibm.com/regions/us-south/services/.../notices`

Understanding

The screenshot displays the IBM Watson Discovery interface. At the top, the header shows 'IBM Watson Discovery' on the left and 'Instance: master' on the right. Below the header, there are three tabs: 'Identify fields', 'Manage fields', and 'Enrich fields'. The 'Identify fields' tab is active, showing a document titled '10-1108_IL5-02-2018-0011.pdf' (1/1). The document content is displayed in a central pane, with a red box highlighting the text area. To the right of the document, a 'Field labels' panel is visible, containing a list of labels: 'answer', 'author', 'footer', 'header', 'question', 'subtitle', 'table_of_contents', 'text', 'title', 'image', and 'table'. The 'subtitle' label is selected. A red box highlights the 'Apply changes to collection' button at the top right of the interface. At the bottom right, there is a 'Submit page' button and a Windows watermark: 'Activate Windows Go to Settings to activate Windows. Learn more about how to use.'

TEST

The screenshot displays the IBM Watson Discovery web interface. At the top, the header shows 'IBM Watson Discovery' and 'Instance: master'. The breadcrumb path is 'information science / Build queries'. A search bar is highlighted with a red box, containing the query 'When did the artificial intelligence appear?'. Below the search bar, there are options for 'Use natural language' and 'Use the Discovery Query Language'. A 'Run query' button is also highlighted with a red box. The right-hand panel shows the 'Summary' tab with a 'Query URL' and 'Passages' section containing several text snippets. The 'Results' section shows one matching document titled 'Artificial intelligence arrives in the library' with a positive sentiment. The text of the document is visible in the 'Text' field.

IBM Watson Discovery

Instance: master

information science / Build queries

Build a query using one or more of these components. [Learn more.](#) [Use a sample query](#)

Search for documents

[Use natural language](#) Use the Discovery Query Language

When did the artificial intelligence appear?

+ Include analysis of your results

+ Filter which documents you query

> More options

[Run query](#) [Close](#)

Summary JSON [Train Watson to improve results](#)

Query URL <https://api.us-south.discovery.watson.cloud.ibm.com/instances/43c6d09a-fc>

Passages

"cial intelligence lab at the University of Rhode Island cial intelligence to in"

"cial intelligence lab at the University of Rhode Island cial intelligence to in"

"Arti ficial intelligence arrives in the library"

"Abstract Purpose – The purpose of this column is to examine arti ficial intelligence (AI) and its potential relationship to the library. Design/methodology/approach – Literature review and commentary on this topic have been addressed by professionals, researchers and practitioners."

"Keywords Services, Libraries, Librarians, Arti ficial intelligence, Virtual Paper type Viewpoint Introduction " Arti ficial Intelligence (AI), " at e r m fi rat of fi cially coined in the 1950s, but perhaps imagined by some at an even earlier point in time"

Results

Showing 1 of 1 matching documents

Arti ficial intelligence arrives in the library

Sentiment positive

Text ".../blogs/digital-library-blog/2017/11/arti ficial-intelligenceand-libraryfuture-revisited-Feigenbaum, E. (2001), " The age of intelligent machines/knowledge processing -from fi fa servers to knowledge servers c)OWS. Kurzweil Accelerated Intelligence. available at:

The Results !!!

The screenshot shows the Watson Discovery interface. At the top, there is a navigation bar with "Instance: master" and a button labeled "Train Watson to improve results" which is highlighted with a red box. Below the navigation bar, there are tabs for "Summary" and "JSON". The main content area is divided into sections: "Query URL" (https://api.us-south.discovery.watson.cloud.ibm.com/instances/43c6d09a-fc...), "Passages" (containing several text snippets about AI in libraries), and "Results" (showing one matching document titled "Artificial intelligence arrives in the library"). The "Results" section includes a table with columns for "Sentiment" (positive) and "Text" (the full article snippet).

Instance: master

Train Watson to improve results

Summary JSON

Query URL: https://api.us-south.discovery.watson.cloud.ibm.com/instances/43c6d09a-fc...

Passages

"cial intelligence lab at the University of Rhode Island cial intelligence to in"

"cial intelligence lab at the University of Rhode Island cial intelligence to in"

"Arti fi cial intelligence arrives in the library"

"Abstract Purpose – The purpose of this column is to examine arti fi cial intelligence (AI) and its potential relationship to the library. Design/methodology/approach – Literature review and commentary on this topic have been addressed by professionals, researchers and practitioners."

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Results

Showing 1 of 1 matching documents

Arti fi cial intelligence arrives in the library

Sentiment	positive
Text	".../blogs/digital-library-blog/2017/11/arti fi cial-intelligenceand-library-future-revisited-Feigenbaum, E. (2001), " The age of intelligent machines/knowledge processing from fi le servers to knowledge servers", OWS, Kurzweil Accelerated Intelligence. available at:

The image features a close-up of a highly detailed, female humanoid robot with a metallic, grey and white body and blue eyes. Her face is partially covered in intricate circuitry patterns. In the background, another similar robot is visible, standing in a brightly lit, industrial or laboratory setting. The overall aesthetic is futuristic and high-tech.

3rd phase:

Knowledge Generation!

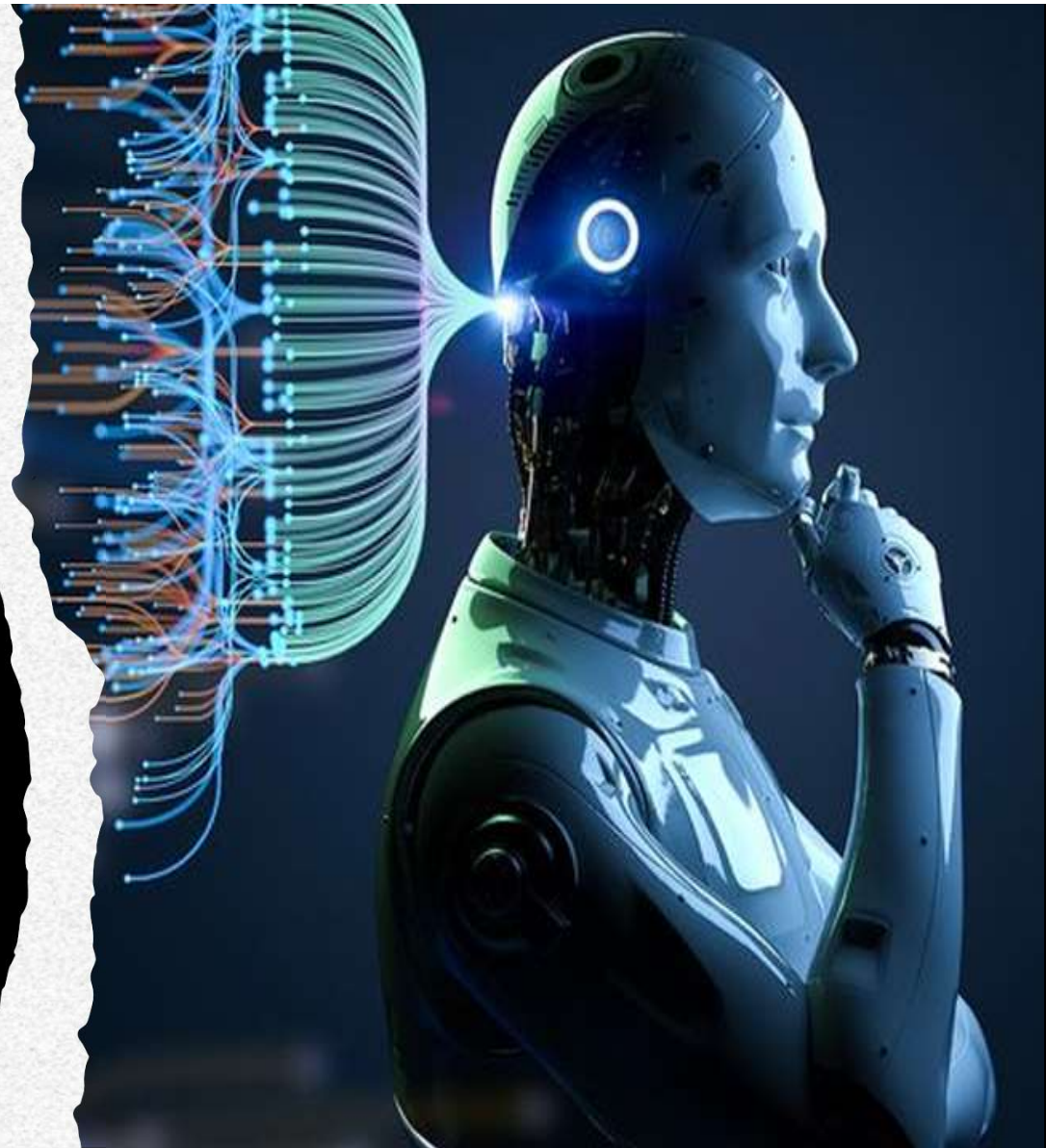
Knowledge Generation

Generative knowledge is a type of artificial intelligence (AI) that can automatically create new knowledge from existing data.

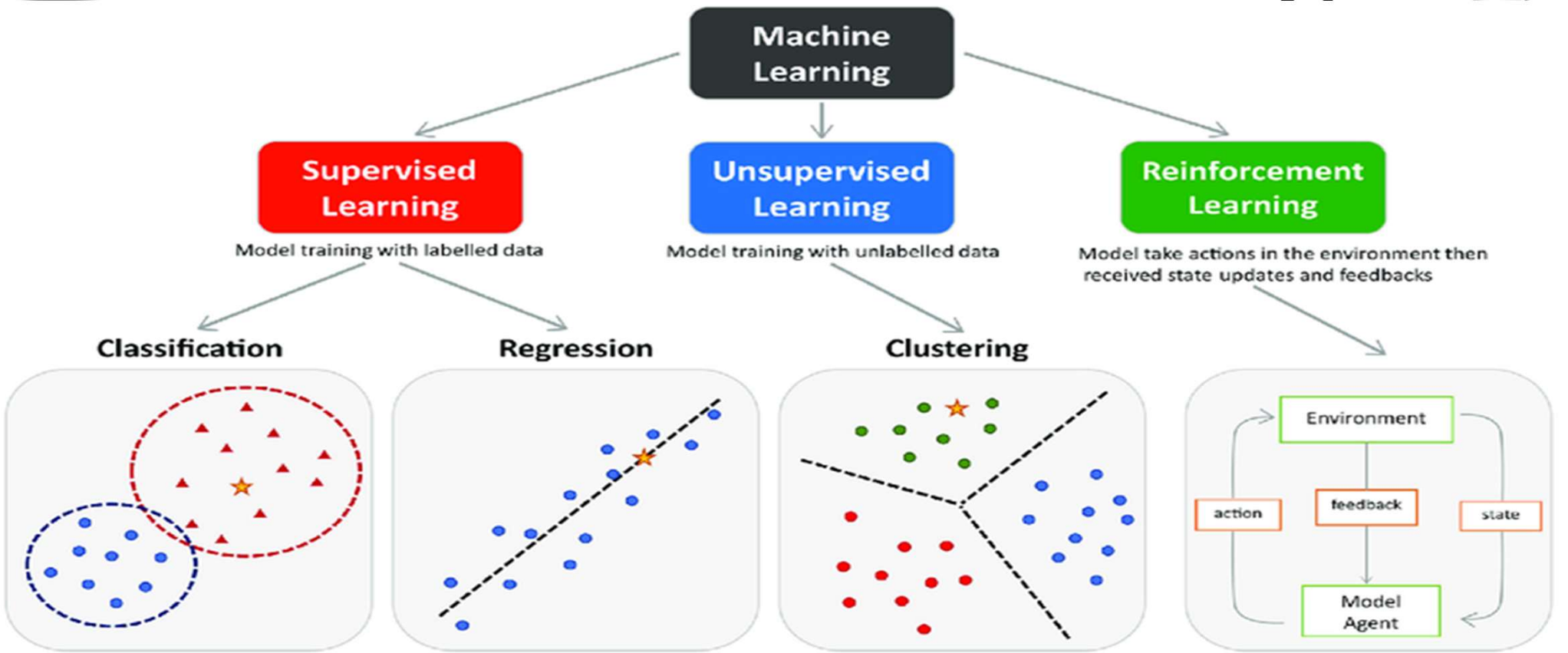


How Generate Knowledge?

- There are several different ways to implement generative knowledge, including:
- **Machine learning:** Machine learning algorithms can be used to learn from existing data and generate new knowledge.
- **Natural language processing:** can be used to extract information from text and code, and then generate new knowledge in a human-readable format.
- **Graph neural networks:** can be used to model the relationships between different pieces of knowledge, and then generate new knowledge that is consistent with these relationships.



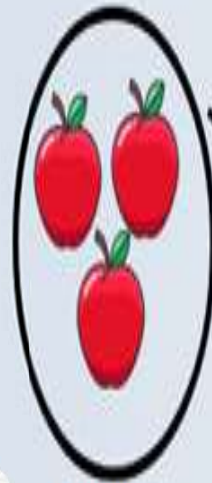
Machine Learning



Supervised learning

In supervised learning, machine learning algorithms are trained on a set of labeled data. This data includes both the input data and the desired output data. The machine learning algorithm learns to map the input data to the desired output data. Once the machine learning algorithm has been trained, it can be used to generate new knowledge by predicting the output data for new input data.

Input Data



Annotation

These are apples



Model

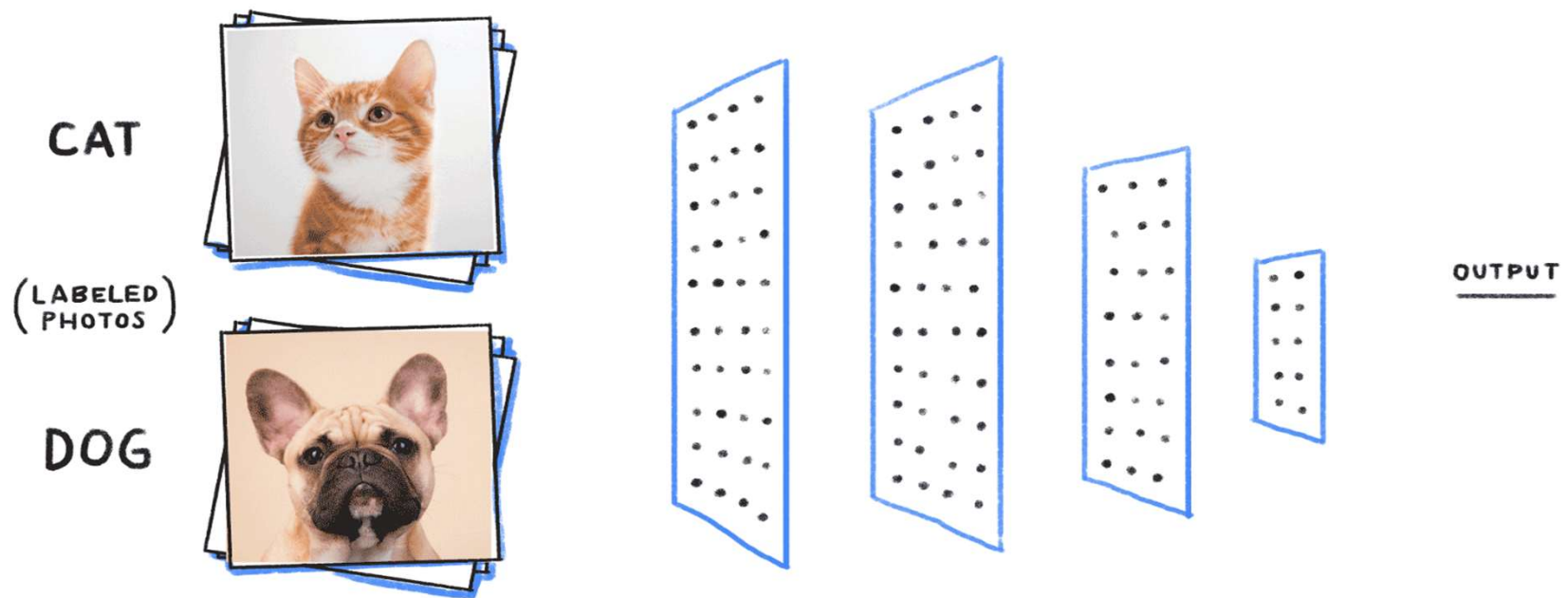


What is Supervised Learning

Prediction

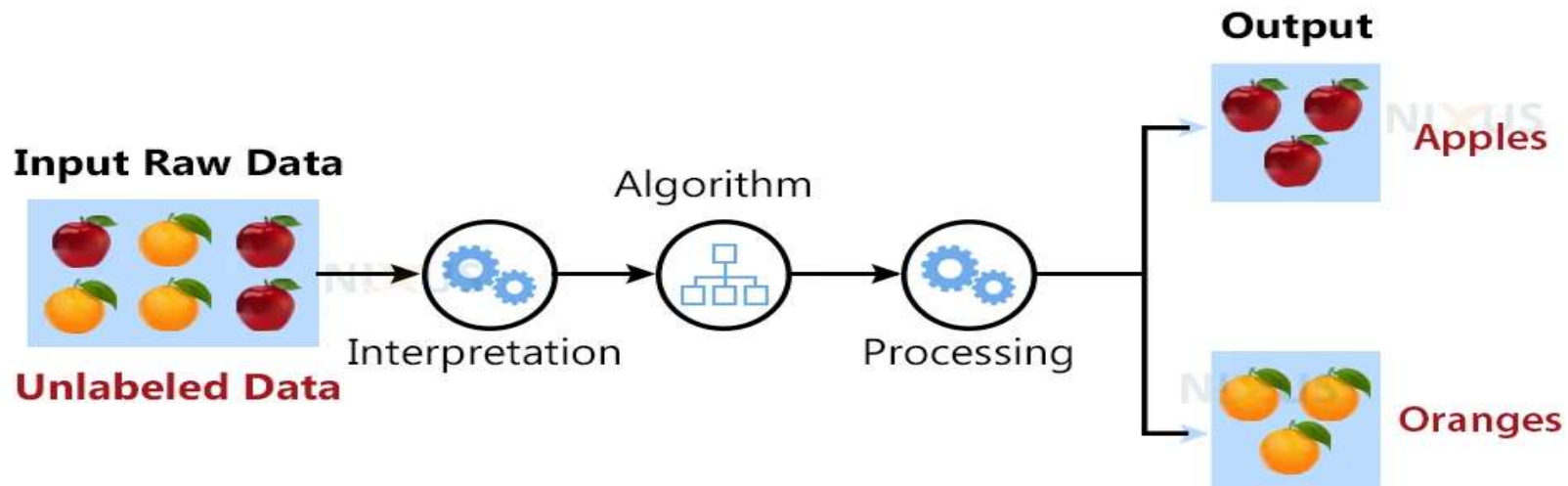


AI *Machine Learning Can generate Knowledge like This*



Unsupervised Machine Learning

In unsupervised learning, machine learning algorithms are trained on a set of unlabeled data. This data does not include any desired output data. The machine learning algorithm learns to identify patterns in the data. Once the machine learning algorithm has been trained, it can be used to generate new knowledge by predicting the relationships between different pieces of data.



Ex: Unsupervised Machine Learning

1 Case Study – Book Cover Classification, Analysis, and Recognition

In this chapter, we will work on classifying an image cover into one of 30 categories. We will start by finding a publicly available book cover dataset, continue with analyzing the dataset, and then work on building a custom classifier using a combination of features extracted from a pretrained neural network and custom architecture. By the end of this chapter, you will also see how you can expose your solution to a REST web service.

The code will first output shapes for the images that are being processed. As you can see, the shapes are fixed in height but are different in width:

```
(Any[(500, 381), (500, 333), (500, 324), (500, 360), (500, 339)]...)
```

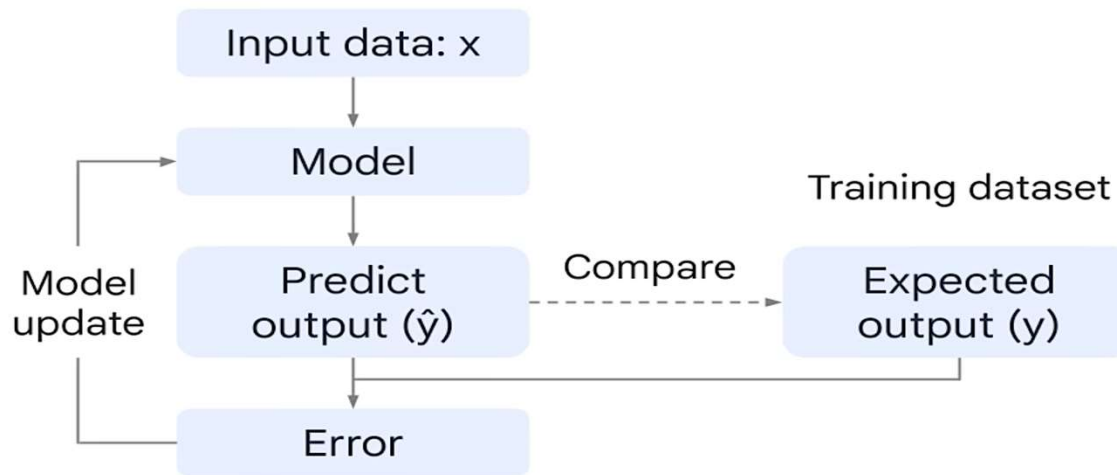
Finally, you will see a preview of the images. The books are very different—from the National Geographic to French Grammar:



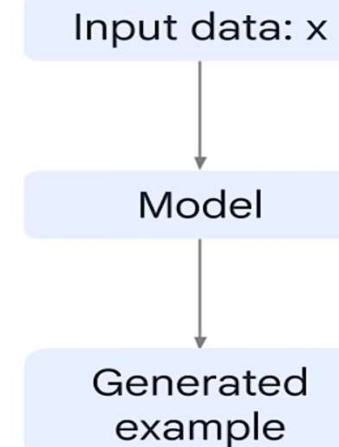
Now that we have our first understanding of the images dataset, we are ready to have a quick look at categories.

Differences between ML Sup & Unsup

Supervised learning



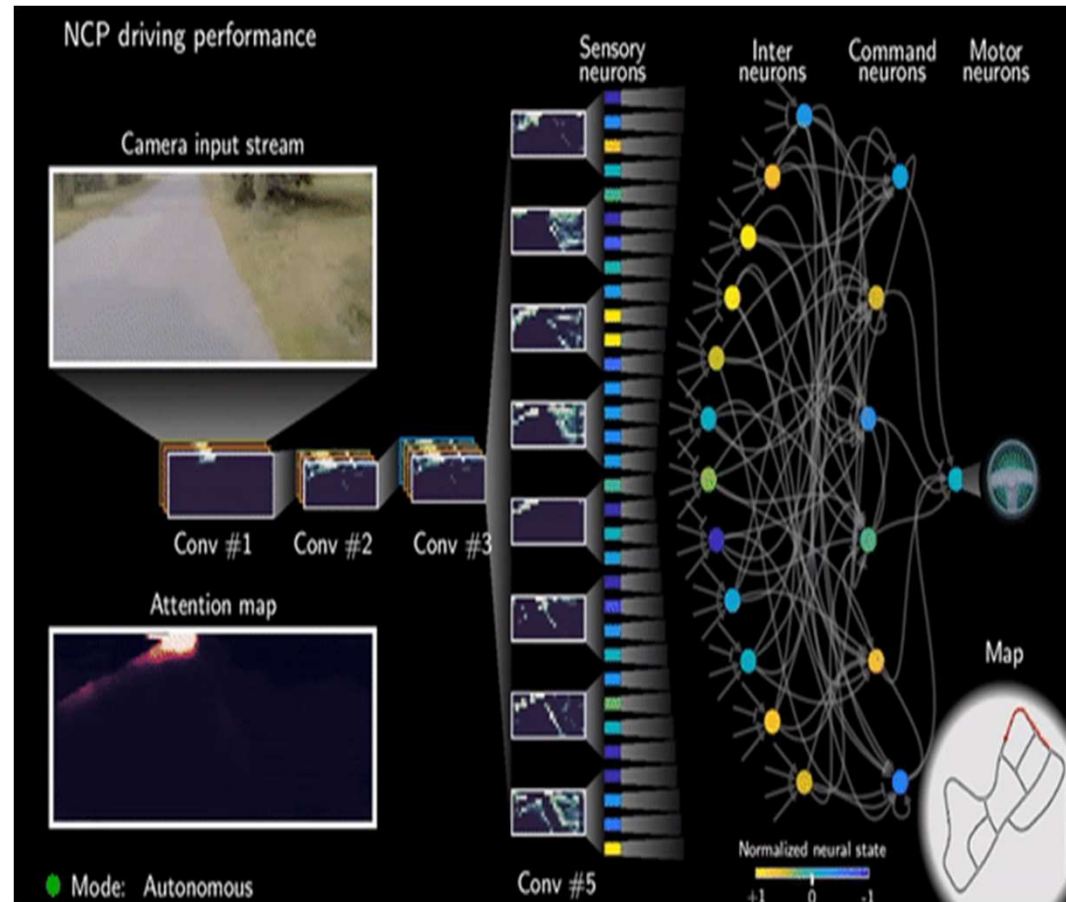
Unsupervised learning





Reinforcement learning

In reinforcement learning, machine learning algorithms are trained to take actions in an environment in order to maximize a reward. The machine learning algorithm learns to associate certain actions with certain rewards. Once the machine learning algorithm has been trained, it can be used to generate new knowledge by exploring the environment and finding new ways to maximize the reward.





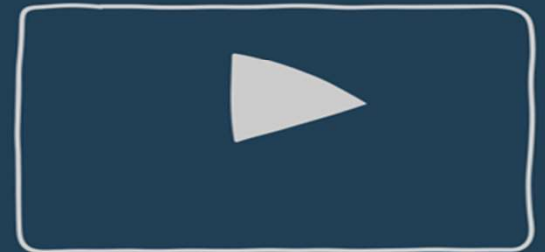
NLP

Natural language processing (NLP) is a branch of computer science and artificial intelligence that deals with the interaction between computers and human (natural) languages. It is concerned with the understanding, interpretation, and generation of human language.

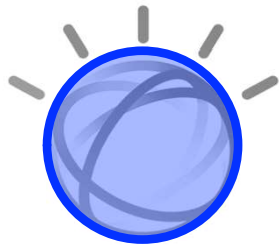
NEW YORK NEWS
Articles for you



Natural Language Processing



AI NLP for Documents



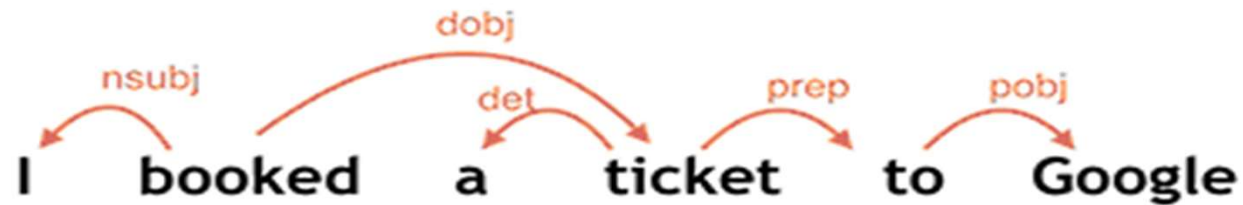
By Extracting:

- **Entities.**
- **Keywords.**
- **Concepts.**
- **Other LS.**

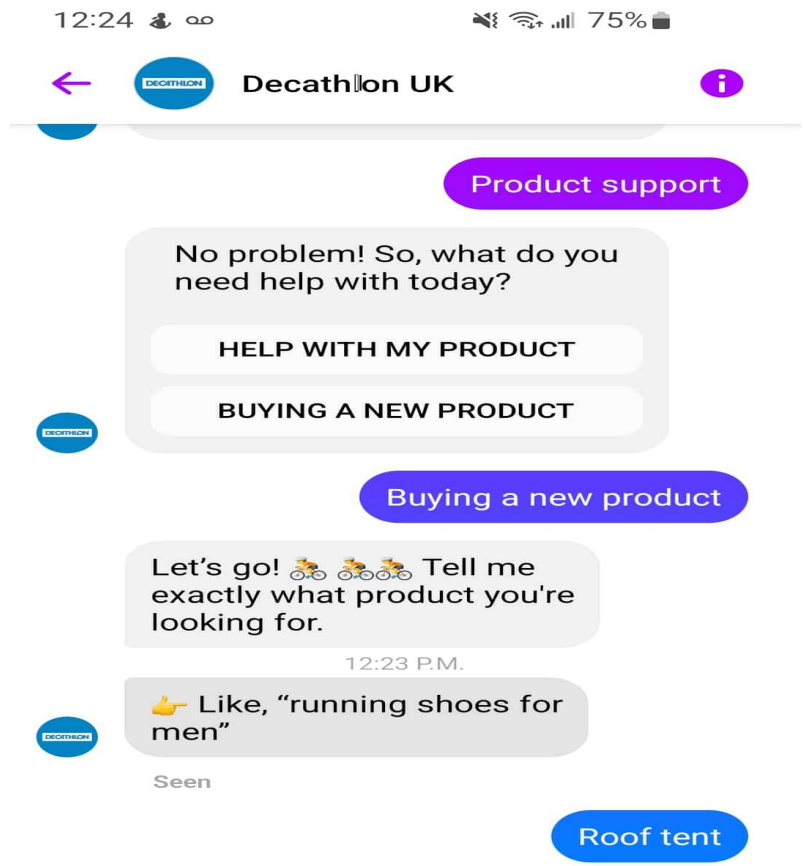


NLP for Resources Indexing

Dependency Parsing



AI The Results will be Like This



Neural Networks



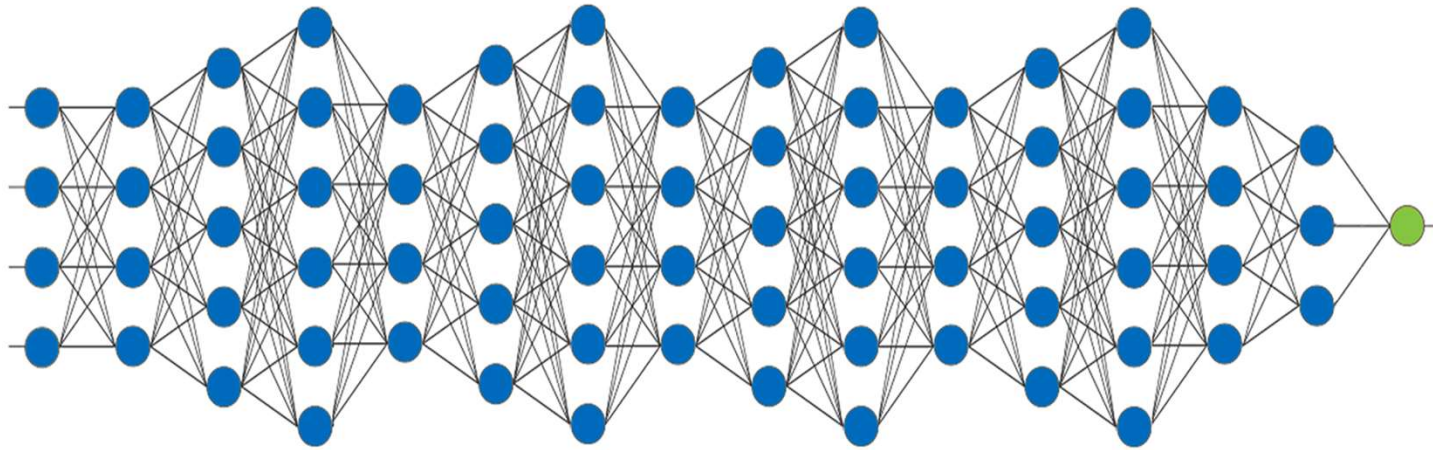
Neural networks

A neural network is a type of AI algorithms that is inspired by the human brain. It is a collection of interconnected nodes, or artificial neurons, that learn to perform a task by analyzing data. Neural networks are typically used for tasks that are difficult or impossible for traditional machine learning algorithms to solve, such as image recognition, natural language processing, and speech recognition.

- Here is a simple overview of how a neural network works:*
 - The neural network is presented with a set of data.*
 - The data is passed through the network, layer by layer.*
 - At each layer, the nodes in the layer process the data and pass it on to the next layer.*
 - The final layer of the network outputs a prediction or classification.*



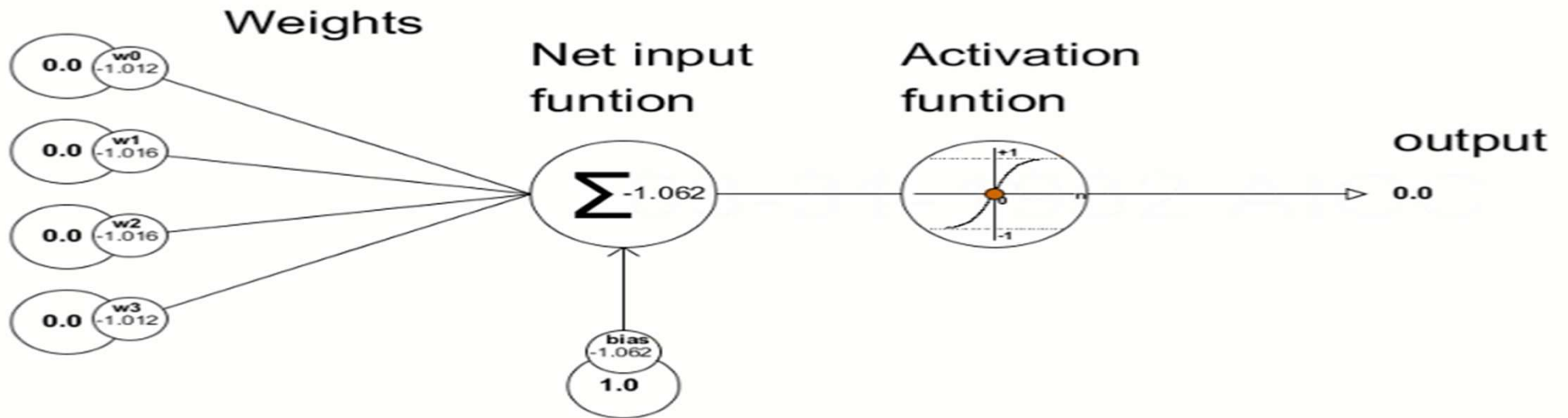
Multiple Hidden Layers



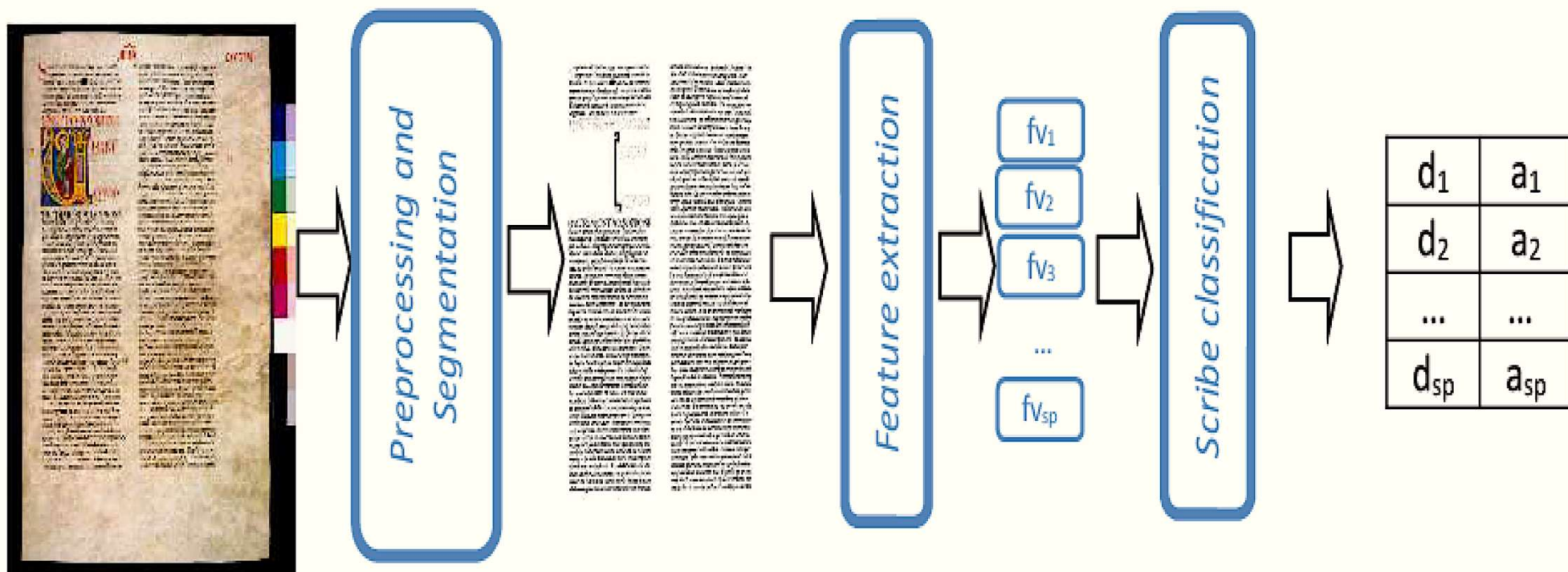
AI *What's Going on Inside It?*


*To Make an Artificial Neural Network, We Need to Use the Most Universal Language **Mathematics**.*

Inputs



By Convolution Neural Networks



The background features a hand in the lower right corner, appearing to interact with a digital interface. The interface is composed of several semi-transparent icons: a smartphone, a laptop displaying a bar chart, a robotic arm with a Wi-Fi symbol, a cloud containing binary code (11010 and 10101010) with circuit-like lines below it, and several Wi-Fi symbols. These icons are arranged around a central gear. The overall aesthetic is dark and technical, with a blue and grey color palette.

*After all these ,
How Can Control These Generated
Data?*

A large conference hall with a stage and a large audience. The stage features a large screen on the left displaying a presentation slide, a podium in the center, and a table with several people seated on the left. The audience is seated in rows of yellow chairs, filling the hall. The lighting is dim, with blue spotlights on the stage and red curtains in the background.

Or

*Backing to the Main Question that
has been Asked in IFLA WLIC 2014 !!!*



By Bibliographic Control)

Did The Digital Tide Knock UBC Out?"



Metadata Management Tools Market Size, By Region, 2017 - 2029
(USD Billion)



Source: Polaris Market Research Analysis

Bibliographic Control Still and will be Remains

- *Bibliographic control can play a role in generative AI in several ways:*
 - *It can help to identify and select relevant information resources. Generative AI systems need access to a large corpus of text in order to generate new text that is both coherent and meaningful. Bibliographic control can help to identify and select relevant information resources, such as books, articles, and websites.*
 - *It can help to describe and organize information resources. Bibliographic control systems provide a standardized way to describe information resources, such as their title, author, publication date, and subject matter. This can be helpful for generative AI systems to understand the content of information resources and to generate new text that is consistent with the style and tone of the resources.*
 - *It can help to track and manage information resources. Bibliographic control systems can help to track and manage information resources, such as their current location, ownership, and circulation status. This can be helpful for generative AI systems to ensure that they are using the most up-to-date information resources and to prevent plagiarism.*

Bibliographic Control Still and will be Remains

- *Here are some specific examples of how bibliographic control can be used in generative AI:*
- *A generative AI system could be used to write a news article about a recent scientific discovery.*
- *The system could use bibliographic control to identify and select relevant scientific papers that have been published on the discovery.*
- *The system could then use the information from these papers to generate a new article that is both accurate and informative.*
- *A generative AI system could be used to create a new poem.*
- *The system could use bibliographic control to identify and select relevant poems from different cultures and time periods.*
- *The system could then use the information from these poems to generate a new poem that is both creative and original.*
- *A generative AI system could be used to write a new business proposal. The system could use bibliographic control to identify and select relevant business reports and case studies.*
- *The system could then use the information from these resources to generate a new proposal that is both persuasive and feasible.*





The Digital Tide Won't Knock UBC Out !!!



But!!!
To Achieve that we
need review our
Bibliographic Tools
to to include the
following:

Big Data Analytics Tools



No SQL Database

Data Analysis Platform

Realtime Processing



Software Integration Platform



Log Analysis Platform



Data Warehousing



Messaging System



Data storage and processing Platform



Finally, We Can Say

*“Now We Should Creating Bibliographic Control not
for Human Users, but for Machine, Generative AI,
and Smart Agents”*



*Based on **Bibliographic Control**, the
Generative AI Will Do ...*

Entities Extracting

In the 2010 World Cup of Soccer, the team from the Netherlands distinguished themselves well, losing to Spain 1-0 in the Final. Early in the second half, Dutch striker Arjen Robben almost changed the tide of the game on a breakaway, only to have the ball deflected by Spanish keeper, Iker Casillas. Near the end of regulation time, winger Andres Iniesta scored, winning Spain the World Cup.

<u>Name</u>	<u>Position</u>	<u>Country</u>
Arjen Robben	Striker	Netherlands
Iker Casillas	Goalkeeper	Spain
Andres Iniesta	Winger	Spain



6 october 1973

 NATURAL LANGUAGE  MATH INPUT

 EXTENDED KEYBOARD  EXAMPLES  UPLOAD  RANDOM

Input interpretation

Saturday, October 6, 1973

Date formats

[More formats/calendars](#)

06/10/1973 (day/month/year)

9 Ramadan, 1393 (until sunset)

Time difference from today (Sunday, August 6, 2023)

49 years 10 months ago

2600 weeks 1 day ago

18 201 days ago

49.83 years ago

Time in 1973

 Enlarge  Data  Customize  Plain Text

279th day

40th week

Observance for October 6, 1973 (Egypt)

Armed Forces Day (Egypt)

Events on October 6, 1973

[Show anniversaries](#)

start of Yom Kippur War

birth of Ioan Gruffudd

birth of Jeff B. Davis (actor, etc.)

Daylight information for October 6, 1973 in Cairo

[More](#)

sunrise	5:51 am EET
sunset	5:34 pm EET

Smart OCR



Image Restorations



Fill Missing Parts

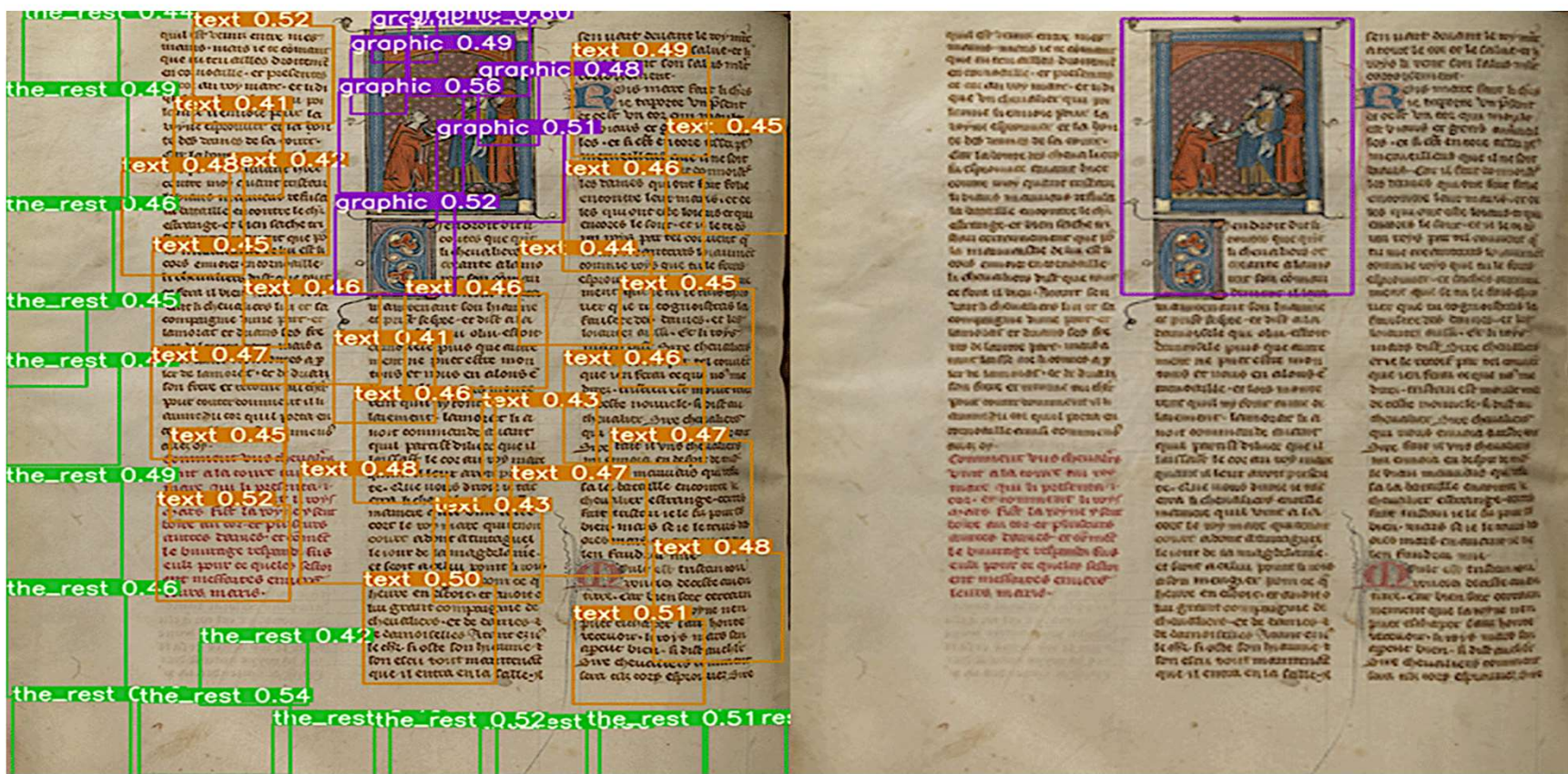
a

---δημο-τα- αθηνησιν τον αυ-ο- ο-κο-. -ον δε πολεμον τον προς
αλεξανδρον τον μη ----α- κ----υσασθαι ---- θετταλοις -νευ
αθηναι ---- α----αιοις α---- αρχοντος και του κοινου ----
----. επαιν-σα---- αγελαον τον αρχοντα ---- των
θετ----ων οτι ευ κ-ι προθυμ-ς επ---- περι ων αυ-ο-ς -
πολ-ς ε-η-γειλ-ο- επ---- ι ---- τος πρε---- των ετταλων
το----ον κ-κ-σαι αυτος ---- ενια -ις ----υτα-ιον ----
----. -ν δε στ-λ-ν προ-αλ-νδ-ον -θελ-ν τος ----ς
της θεο ----ερ----ς -υμμαχια-. τοις δε πρεσ----οναι τον
----αν τ-υ ----ο εις εφοδια 0 δραχ---- εκαστωι. τη---- συμ-χι--
τη-δε αναγραφαι τον ----μ-ατια της β----ς εν -τ----ι λιθινη----
τησαι -ν ακ-ο-ολε-ε-ς -ε-ν ----ην της -τ-λη-δοναι τον
ταμιαν το δη-ο ----α----ς. ειναι δε και -ε----τητον τον ερχια ω-
λεγο-τα ----ιστα ----ι ----ατιοντα ο ----ι αν δυνηται αγα-ν τω----ω-
τωι α----α-ω----ι θετταλ-ις εν τωι τεταγμε-ωι.

b

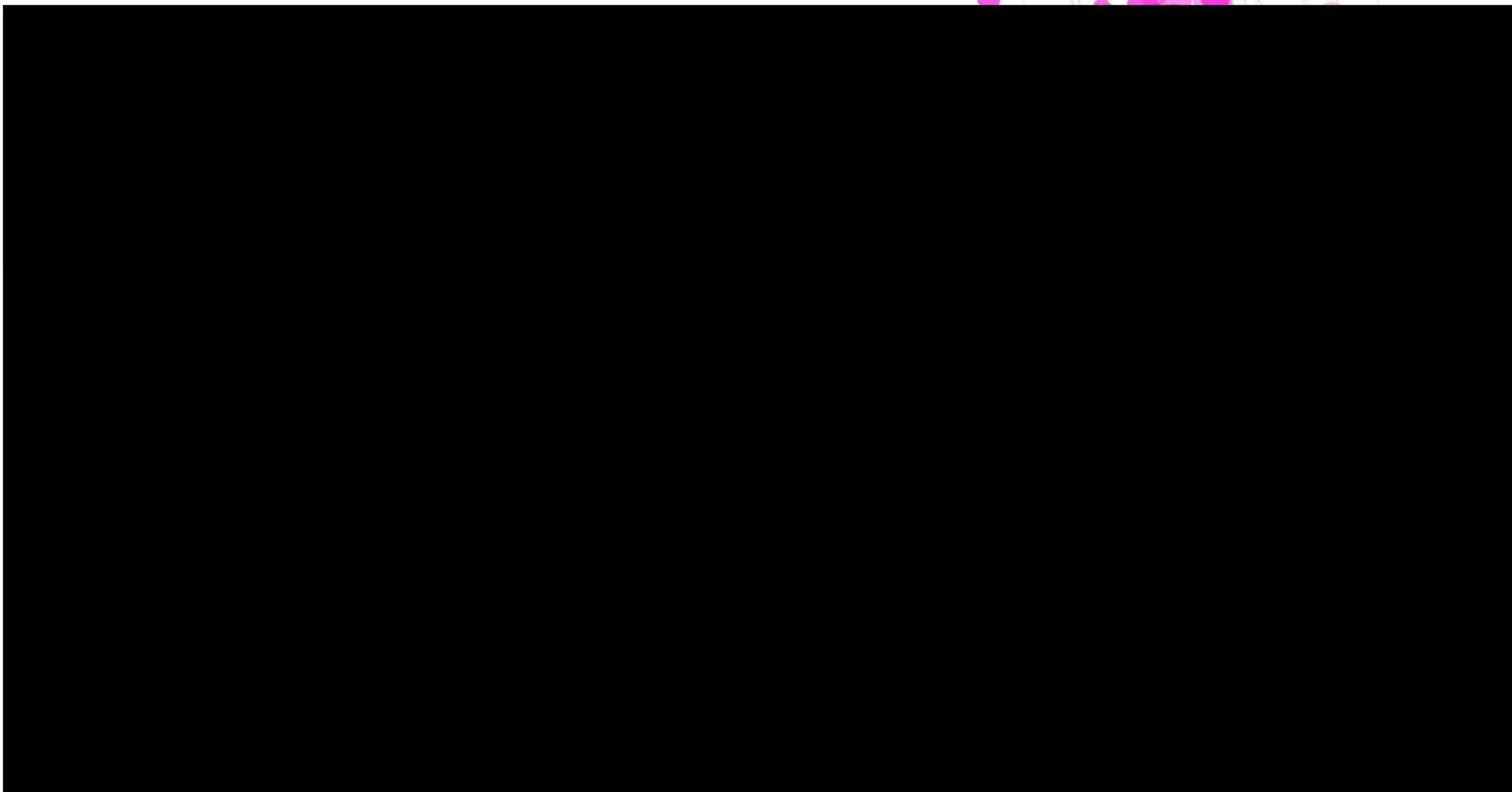
συνδημοντας αθηνησιν τον αυτον ορκον. τον δε πολεμον τον προς
αλεξανδρον τον μη εξειναι καταλυσασθαι τους θετταλοις ανευ
αθηναιων τοις αθηναίοις απο του αρχοντος και του κοινου του
θετταλων. επαινεσαι δε αγελαον τον αρχοντα περι και περι των
θετταλων οτι ευ και προθυμωσ επιμεμελησθαι περι ων αυτοις η
πολις επηγγειλατο επαινεσαι δε και τος πρεσβεις των θετταλων
τος ηκοντας και καλεσαι αυτος επι ξενια εις το πρυτανειον εις
αυριον. την δε στηλην την προς αλεξανδρον καθελην τος ταμιας
της θεο και περι της συμμαχιας. τοις δε πρεσβεισι δοναι τον
ταμιαν του δημο εις εφοδια 0 δραχμας εκαστωι. την δε συμμαχιαν
την δε αναγραφαι τον γραμματια της βολης εν στηλη λιθινη και
στησαι εν ακροπολει εις δε την αναγραφην της στηλης δοναι τον
ταμιαν το δημο 0 δραχμας. ειναι δε και θεαιτητον τον ερχια ως
λεγοντα αριστα και πρατιοντα ο τι αν δυνηται αγαθον τωι δημωι
τωι αθηναιων και θετταλοις εν τωι τεταγμενωι.

Detecting Text, Images..etc



Generate by Metadata





So, We Have ~~Trustability~~; ~~Integration~~ ~~Choices~~ to..





The Final Advice



**The Faster We Adapt,
The Faster We Escape
Extinction**





**The Half of Science,
Is Organizing !!!**

A group of people are shown from the chest up, arranged in a circle and clapping their hands. The background is slightly blurred, focusing attention on the hands and the text. The text "Thank you for Listening" is written in a white, serif font with a blue outline, centered over the image.

**Thank you for
Listening**

Questions

