



**10° CONGRESO DE BIBLIOTECAS
UNIVERSITARIAS Y ESPECIALIZADAS**

AI and Libraries: Say Your Piece in 12+5

AI Symposium

University of Chile, Santiago de Chile

11 April, 2024



AI Implementation Area and Practice at the Russian State Library

Pavel Lushnikov,
CDTO,
Russian State Library

Extended version here
<https://shorturl.at/gjzEG>

*Artificial Intelligence and Libraries: Transforming Information Access
and Discovery*

University of Chile, Santiago, Chile, 11 April 2024





5 steps for using AI&ML in a library

fast proof of concept tests for
idea validations and feasibility check

1

“Out of the Box” Use

Using AI-based products and services for everyday library needs

2

Box adoption

Adopting AI products for specific library use

3

Self-trained solutions

Creating specific AI&ML-based solutions for internal library needs

4

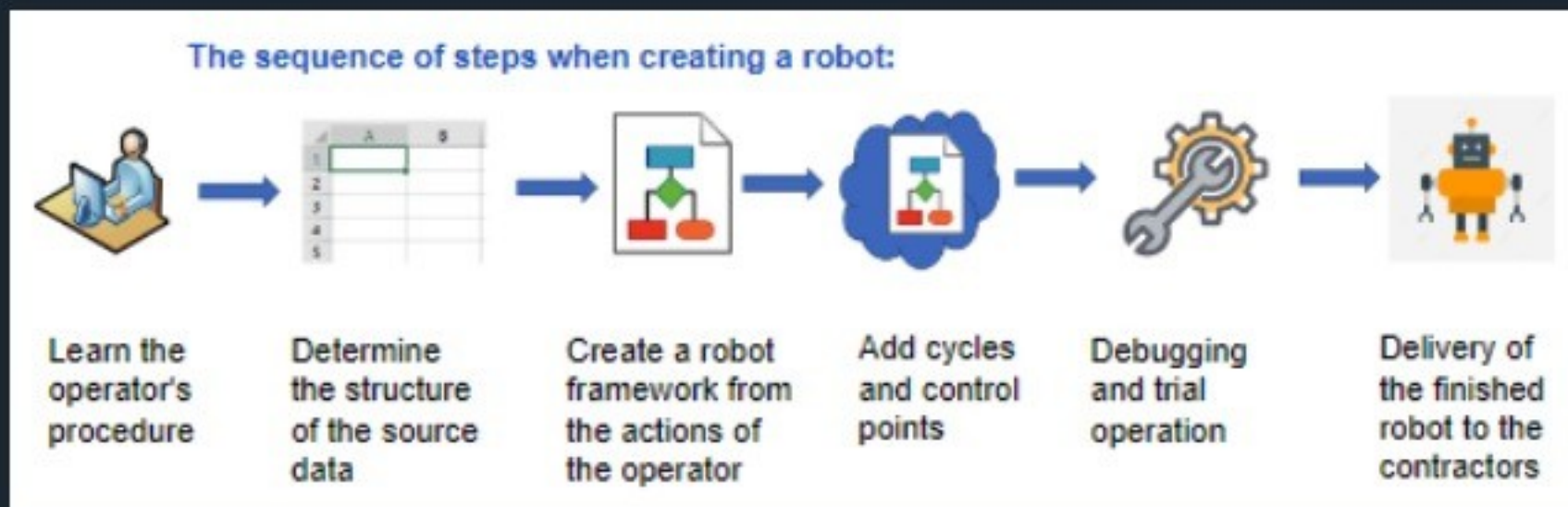
New library products

Creating new generation AI-based digital library products for library patrons

5

Industry support and TDM

Data mining and delivery of learning materials for industry



Out of the box solutions

Samples of usage

- Use GPT for generating various types of texts (e.g., announcements, feedback, reports, and even answering stupid questions)
- Employ AI-based translation and transcription services to effectively communicate with diverse groups of patrons
- Use ready-made chatbots and voice companions as the initial point of contact in remote communications
- And thousands of other AI-powered tools to enhance productivity and efficiency

Robotic Process Automation

Our most notable achievement in this area is our successful implementation of RPA:

- We created thousands of records of periodicals using robotic procedures. We can now offer a digital archive covering a 100-year publication history of several newspapers
- We normalised millions of library call numbers in our catalogue to streamline the retrieval and delivery of library materials
- We overcame the lack of API or developers in huge number of systems
- We boosted the cataloguing efficiency and reduced mistakes

Adopted and self-developed

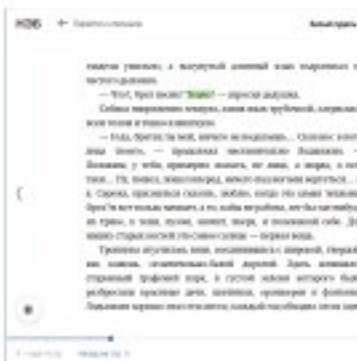
Successful or not [yet]

eBooks dubbing

We have audio dubbed several thousand books using a speech synthesis technology provided by a local vendor, making them accessible to all our patrons

Table of contents detection

We have located and displayed the table of contents for 500k digitised documents, greatly enhancing their accessibility. Remote users can now order a required extract by page numbers and obtain it in minutes via self-service



Retro conversion from book chronicles

We have segmented, recognized, and converted 1.6 million records from the period 1959-1979 into machine-readable metadata

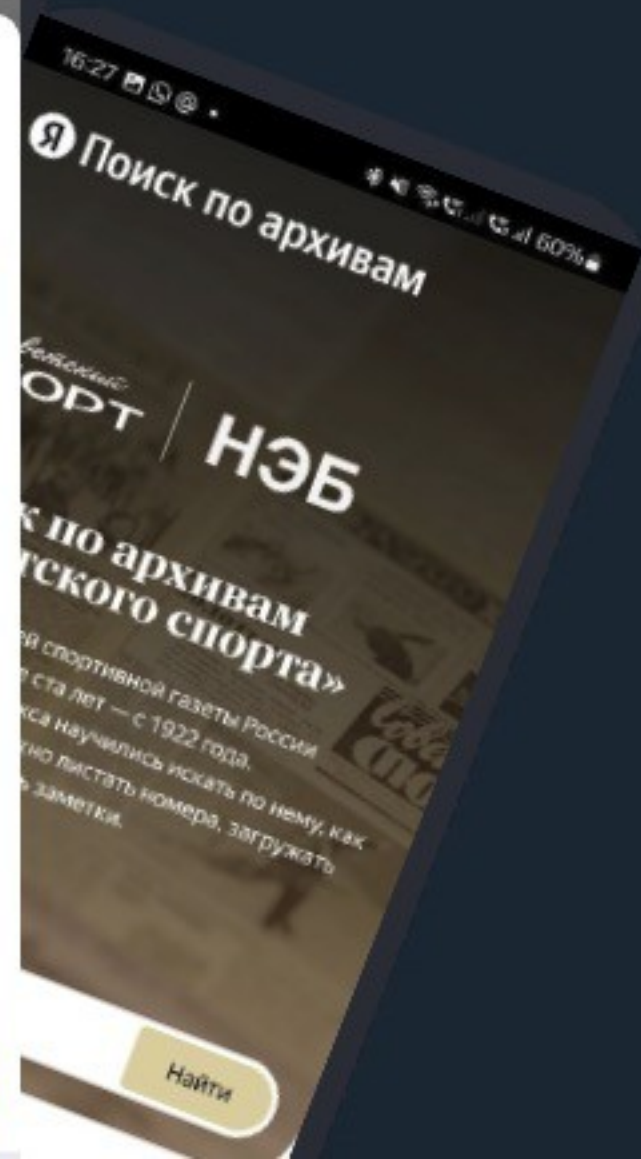
Damage detection

We have made attempts to detect and classify book damages through image analysis in order to provide recommendations for preservation or restoration options



Fundamentally new library product

A 100-year archive of the leading sports newspaper has been collected, catalogued, scanned, and licensed by the Russian State Library. All pages have been segmented, recognized, and indexed by one of the leading IT companies in Russia. Named entity recognition technology has been used to detect and correct persons and places. One of the world's leading search engines allows users to search through newspapers, providing access to first-hand accounts and factual information presented from the perspective of contemporary sources. Since the start of the project, several publications in different media have already been released. The advancement of AI technology allows us to provide our patrons with a new generation product and prioritise areas for collection digitisation.





Thank you for your attention

Feel free to contact at

Pavel Lushnikov,
CDTO,
Russian State Library

Extended version here
<https://shorturl.at/gjzEG>

LushnikovPY@rsl.ru
<https://t.me/Lushnikovpavel>

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Navigating Digital Transformation: Ethical and Policy Frameworks for AI in Caribbean Libraries

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The University of the West Indies

- Mona Campus, Jamaica
- St. Augustine Campus, Trinidad & Tobago
- Cave Hill Campus, Barbados
- Five Islands Campus, Antigua & Barbuda
- Global Campus, Online

Digital Transformation in the UWI

At The UWI, conversations and plans for DIGITAL TRANSFORMATION have been underway for some time having been explicitly identified as an objective in our Triple A Strategic Plan (2017-2022) as AG5: Foster the digital transformation of The UWI

Dealing with AI

- Legislation
- Guidelines
- University Policy

The way forward

- Strengths
- Weaknesses
- Opportunities
- Threats

Desvelando el Poder de la Creatividad: Transformando Redes Sociales con la Magia de la Inteligencia Artificial Generativa

María-Isabel Villanueva

Universidad de Chile, CHILE






mivilla@uchile.cl

**10.000
herramientas
de IA en 2023**

**AI tools available
in 2023 is
estimated to be
over 10,000.**

Fuente: Analytic Insightt

smc
ción Página web ⓘ

1	 google.com
2	 youtube.com
3	 facebook.com
4	 instagram.com
5	 twitter.com

Fuente: <https://www.similarweb.com/>

**Principio
10 - 80- 10**

**The 10 - 80 -10
Principle**

Principio de Pareto / John C. Maxwell

ESTRATEGIAS DE **MARKETING** 2024



- IA Generativa
- Contenido **efímero**
- Motores de **búsqueda**
- **Videos**
- Valor del **contenido orgánico**
- Humanizar
- **Datos** como servicios (Daas)



PRÓLOGO "El compromiso de la Universidad de Chile con el desarrollo y la promoción de la innovación social nace desde su vocación arraigada en la excelencia académica y la responsabilidad con el desarrollo del país; con la formación de profesionales capaces de transformar espacios y una educación orientada al bien común"

Innovación social y pública: experiencia contemporánea (2022) Universidad de Chile | #LibrosUchile SISIB

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Acceso
 Prácticas de instituciones de



cultura, cambio,

Dra. María Andrea Rodríguez Tastets.
 Vicerrectora de Investigación y Desarrollo
 Universidad de Concepción.



sisibuchile U. de Chile

Hoy en la #SemanaDelAccesoAbierto 🔒

Dra. María Andrea Rodríguez Tastets. Vicerrectora de Investigación y Desarrollo. @udeconcepcion

◆ #Panel Gobernanza y políticas en la #CienciaAbierta

🔒 Acerca del cambio cultural en las instituciones hacia una Ciencia abierta.

Organiza #Uchile #UdeC #UC

=> semanaaccesoabierto.cl

#universidadeschilenas
 #colaboracion #cooperación
 #gestiondelcambio



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UNIVERSIDAD DE CHILE
Dirección de Servicios de
Información y Bibliotecas (SISIB)



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UNIVERSITARIAS Y ESPECIALIZADAS



4TH ARTIFICIAL INTELLIGENCE AND
LIBRARIES SYMPOSIUM: TRANSFORMING
INFORMATION ACCESS AND DISCOVERY

A Seamless Bibliographic Resource Retrieval: A Proof of Concept from Subject Catalogs at Pontificia Universidad Javeriana

Néstor A. Nova Arévalo, PhD

novanestor@javeriana.edu.co

Research Team:



Cristian L. López



Andrés F. Daza



Juan P. Pájaro

Research Context

Recursos bibliográficos:

Tema 1

- Glushko, R. (2021) Organización y descripción de recursos de información digital. FESABID
- Pérez Mora, R., Inguanzo Arias (2018). La organización del conocimiento desde una perspectiva sistémica y la movilización del conocimiento. En: *LIBINC* 14 (2)
- Smiraglia, R. P. (2014). *The elements of knowledge organization*. Springer.
- Hjørland, B. (2008). What is knowledge organization (KO)? *KO Knowledge Organization*, 35(2-3), 86–101.
- Hjørland, B. (2014). Theories of knowledge organization—Theories of knowledge. *KO KNOWLEDGE ORGANIZATION*, 40(3), 169–181.
- Hjørland, B. (2016). Knowledge organization (KO). *KO Knowledge Organization*, 43(6), 475–484.

Tema 2

- Suárez Sánchez, A. (2017) Sistemas para la organización del conocimiento: definición y evolución histórica. *En E-ciencia de la Información* 7 (2)
- Soergel, D. (2014). Knowledge Organization Systems: Overview.
- Souza, R. R., Tudhope, D., & Almeida, M. B. (2012). Towards a taxonomy of KOS: Dimensions for classifying Knowledge Organization Systems. *KO Knowledge Organization*, 39(3), 179–192.
- Zeng, M. L. (2008). Knowledge organization systems (KOS). *KO Knowledge Organization*, 35(2-3), 160–182.
- Pastor-Sánchez, J.A., Martínez-Méndez, F.J. and Rodríguez-Muñoz, J.V. (2012) Aplicación de SKOS para la interoperabilidad de vocabularios controlados en el entorno de linked open data. En: *El profesional de la información*, 21 (3), 245-253.

Tema 3

- Chen, J., & Nonaka, I. (Eds.). (2022). *The Routledge Companion to Knowledge Management*. Taylor & Francis.
- Hilger, J., & Wahl, Z. (2022) Making Knowledge Management Clickable.
- Greenberg, J., Zhao, X., Monsellie, M., Grabus, S., & Boona, J. (2021). Knowledge Organization Systems: A Network for AI with Helping Interdisciplinary Vocabulary Engineering. *Cataloging & Classification Quarterly*, 59(8), 720-739.



Data and Reality

	F	Q	V
1	Nombre asignatura	Objetivos de Formación	Recursos Bibliograficos
2	Accesibilidad y diseño	Presentar las bases teóricas y las	Quiroga, Luz Marina. Tecnologías de
3	Apropiación de la información	El objetivo general del curso es establecer un	Lee, N. M., VanDyke, M. S., & Cummins, R. G.
4	Arquitecturas de información	Contextualizar metodológicamente al	Ames, A. L. Corbin, M. Information



Manual Extraction

Asignatura: nombre corto	Autor	Título	Año	Editorial
Apropiación de la información	Lee, N M, VanDyke, M S, & Cu	A Missed Opportunity?: NOAA's use of social media to communicate climate science.	2018	Routledge
Apropiación de la información	Chaparro, F	Apropiación social del conocimiento, aprendizaje y capital social.	2003	Instituto Brasileiro de Geografia e Estatística
Apropiación de la información	Vessuri, H	Ciencia, tecnología y desarrollo: una experiencia de apropiación social del conocimiento.	2002	Interciencia Assoctec
Apropiación de la información	Horlick-Jones, T, Rowe, G, & Walls, J	Citizen engagement processes as information systems: the role of knowledge and the concept of translation quality.	2007	Sage
Apropiación de la información	Haklay, M	Citizen Science and Volunteered Geographic Information: Overview and typology of participation.	2013	University College London
Apropiación de la información	Haworth, B. T.	Implications of Volunteered Geographic Information for Disaster Management and GIScience: A more complex world of volunteered geography.	2018	School of Agricultural and Forest Sciences
Apropiación de la información	Chang, J H, Kim, S H, Kang, M H, Shim, J C., & Ma, D. H.	The gap in scientific knowledge and role of science communication in South Korea.	2018	Sage



Lee, N. M., VanDyke, M. S., & Cummins, R. G. (2018). A missed opportunity?: NOAA's use of social media to communicate climate science. *Environmental Communication*, 12(2), 274-283.

Haworth, B. T. (2018). Implications of volunteered geographic information for disaster management and GIScience: A more complex world of volunteered geography. *Annals of the American Association of Geographers*, 108(1), 226-240.

Chang, J. H., Kim, S. H., Kang, M. H., Shim, J. C., & Ma, D. H. (2018). The gap in scientific knowledge and role of science communication in South Korea. *Public Understanding of Science*, 27(5), 578-593.

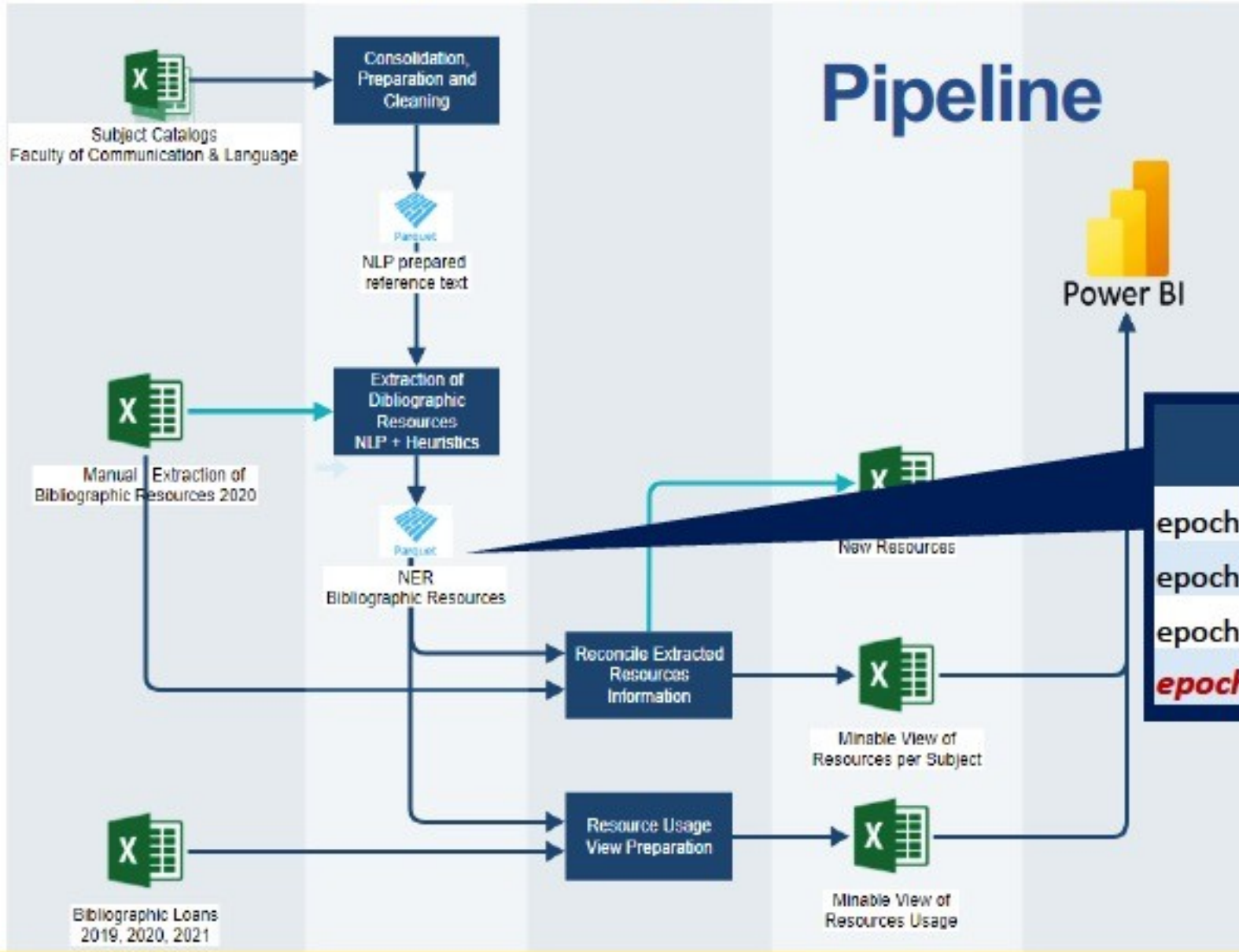
Haklay, M. (2013). Citizen science and volunteered geographic information: Overview and typology of participation. In *Crowdsourcing geographic knowledge* (pp. 105-122). Springer, Dordrecht.

Horlick-Jones, T., Rowe, G., & Walls, J. (2007). Citizen engagement processes as information systems: the role of knowledge and the concept of translation quality. *Public understanding of science*, 16(3), 259-278.

Chaparro, F. (2003). Apropiación social del conocimiento, aprendizaje y capital social. In *Simposio Internacional sobre Ciencia y Sociedad*.

Vessuri, H. (2002). Ciencia, tecnología y desarrollo: una experiencia de apropiación social del conocimiento. *Interciencia*, 27(2), 88-92.

Pipeline



Machine Learning BERT

Serie	Precision %	Recall %	F1 %	Accuracy %
epoch 1 batch 8	75,9	76,2	76,1	84,2
epoch 2 batch 16	82,7	83,4	83,0	88,5
epoch 1 batch 16	55,9	50,3	52,9	71,9
epoch 3 batch 8	90,9	91,5	91,2	93,5

Extracting Resources

	F	Q	V
1	Nombre asignatura	Objetivos de Formacion	Recursos Bibliograficos
2	Accesibilidad y diseño	Presentar las bases teóricas y las	Quiroga, Luz Marina. Tecnologías de
3	Apropiación de la información	El objetivo general del curso es establecer un	Lee, N. M., VanDyke, M. S., & Cummins, R. G.
4	Arquitecturas de información	Contextualizar metodológicamente al	Ames, A. L. Corbin, M. Information



Automatic Extraction

author	date	title	journal	volume	pages
Lee, N. M., VanDyke, M. S., & Cummins, R. G	2018	A missed opportunity? : NOAA ¿ s use of social media to communicate climate science	Environmental Communication	12	274-283
Chang, J. H., Kim, S. H., Kang, M. H., Shim, J. C., & Ma, D. H	2018	Implications of volunteered geographic information for disaster management and GIScience : A more complex world of volunteered geography	Annals of the American Association of Geographers	108	226-240
Haklay, M	2018	The gap in scientific knowledge and role of science communication in South Korea	Public Understanding of Science	27	578-593
Chaparro, F	2007	Citizen engagement processes as information systems : the role of knowledge and the concept of translation quality	Public understanding of science	16	259-278



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Future Research

Resultados: Unidades académicas

Adquisición en USD: \$918.708,10 Adquisición en COP: \$ 3.491.090.795,65

75185

Títulos citados en los cursos

40492

Títulos únicos en los cursos

9208

Títulos cotizados (no disponibles o desactualizados)

19 Facultades y la Vicerrectoría Académica

14 Idiomas diversos en la bibliografía

70 Departamentos e institutos

60 Tipos de documentos citados

7007 Cursos o asignaturas

author	date	
Lee, N. M., VanDyke, M. S., & Cummins, R. G	2018	A missed opportunity: media to co...
Chang, J. H., Kim, S. H., Kang, M. H., Shim, J. C., & Ma, D. H	2018	Implications of information GI Science: volunteered...
Haklay, M	2018	The gap in science communication...
Chaparro, F	2007	Citizen engagement systems: the role of translation...

Facultades

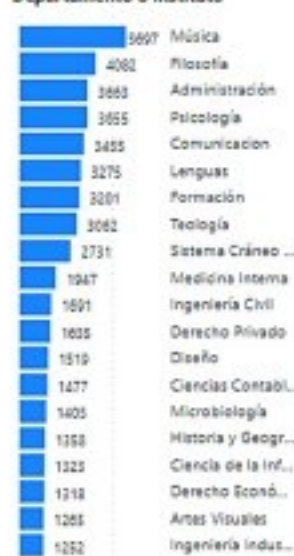
Las siguientes cantidades de títulos están presentes en las facultades:

- Arquitectura y Diseño
- Artes
- Ciencias
- Ciencias Económicas y A...
- Ciencias Jurídicas
- Ciencias Políticas y Relac...
- Ciencias Sociales
- Comunicación y Lenguaje
- Derecho Canónico
- Educación
- Enfermería
- Estudios Ambientales y ..
- Filosofía
- Ingeniería
- Medicina
- Odontología
- Psicología
- Teología
- Vicerrectoría de Investig...

Facultades



Departamento o Instituto



Editoriales

>En facultades cercanas a las humanidades o las ciencias sociales, las editoriales principales son PUI, Paidós, PCE y Alianza. Por su parte, en las ciencias, ingenierías y administrativas, predominan editoriales como Elsevier, McGraw, Wiley, Springer y Médica Panamericana.

Idiomas

Español: 44715
Inglés: 26842
Francés: 781
Italiano: 253
Alemán: 199

Tipo de documentos

Libro: 50951
Artículo de revista: 10954
Partitura: 2751
Página web: 2488
s/i: 2120

Fecha de publicación de los recursos bibliográficos



>El top 5 de facultades representan el 37% de toda la bibliografía. Por su parte, el top 3 de departamentos representan el 23% de toda la bibliografía.

Business Intelligence



Q & A



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