

Research at the Library of Congress



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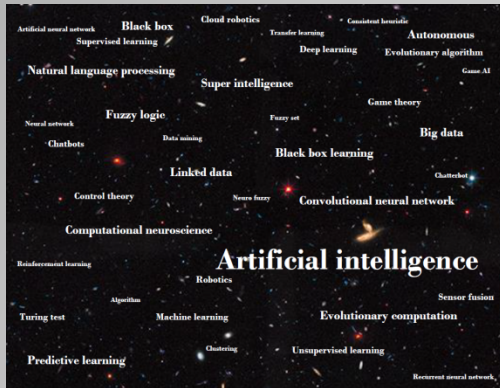
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Research Tool Kit: Reference Checklist

- ❑ **Overview:** A good idea is to read a few articles on your topic. Draft an outline and be mindful that it could change during the course of your research.
- ❑ **Acronyms:** Keep a running list of EVERY acronym you come across. Consult a respected source to verify and determine if there are duplicate acronyms.
- ❑ **Definitions:** Words can take on other meanings. A good idea is to check our subscription to the *Oxford English Dictionary*: <http://eresources.loc.gov>
- ❑ **Industry Codes:** See our *Guide to Industry Research*:
https://www.loc.gov/rr/business/BERA/issue9/issue9_main.html
- ❑ **Selected Book Titles:** How to identify works on your subject: Check the LC Subject Headings: <https://authorities.loc.gov/> **When in doubt, consult a librarian.**
- ❑ **Representative Journal Articles:** We subscribe to hundreds of databases. Keep good records. <http://eresources.loc.gov>
- ❑ **Conferences, Papers and Proceedings:** Extremely important. These resources have excellent bibliographies which can lead you to other sources—sometimes faster than a database search.
- ❑ **Current Legislation:** This is the official site for U.S. Federal legislative information. Why this is very important. <https://www.congress.gov/>
- ❑ **Associations/Organizations:** Gale Virtual Reference Library.
http://go.galegroup.com/ps/start.do?p=GVRL&u=loc_main&authCount=1

Artificial neural network
Black box
Supervised learning
Natural language processing
Fuzzy logic
Neural network
Chatbots
Knowledge engineers
Control theory
Computational neuroscience
Reinforcement learning
Bell labs
Algorithm
Turing test
Predictive learning
Cloud robotics
Transfer learning
Deep learning
Bayesian Network
Super intelligence
Game theory
Fuzzy set
Master algorithm
Black box learning
Linked data
Neuro fuzzy
Convolutional neural network
Game AI
Evolutionary algorithm
Big data
Chatterbot
Sensor fusion
Evolutionary computation
Unsupervised learning
Recurrent neural network
Clustering
Machine learning
Robotics

Artificial intelligence



Issue ____ : Spring 2018

Artificial Intelligence. Business and industry applications; a guide to resources.

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OVERVIEW

This guide provides sources of information on artificial intelligence as it pertains to its application in both business and industry. Although artificial intelligence has already impacted many business models and industry outcomes, it is anticipated that algorithms used to calculate and produce long term solutions to problems based on knowledge gained from data input will produce machine learning enabling computers to make decisions resulting in outcomes independent of human input on a larger scale than previously thought. Likewise, although business and industry is already data driven, vast amounts of data collected needs to be categorized allowing it to be transformed into knowledge which will result in a computer's ability to learn indefinitely.

ACRONYMS

This is a list of the most frequently encountered acronyms associated with artificial intelligence.

AGI	Artificial General Intelligence
AI	Artificial intelligence
AIKE	Artificial intelligence and knowledge engineering
AIML	Artificial intelligence and markup language
ALICE	Artificial linguistic internet computer entity
ANN	Artificial neural network
ART	Adaptive resonance theory
AVGM	Average mixture algorithm.
BACS	Bayesian approach to cognitive systems
BF	Backward propagation

DEFINITIONS

Algorithm: Math. and Computing. A procedure or set of rules used in calculation and problem-solving; (in later use spec.) a precisely defined set of mathematical or logical operations for the performance of a particular task.

Artificial Intelligence (AI): The capacity of computers or other machines to exhibit or simulate intelligent behaviour; the field of study concerned with this.

Autonomic computing: A system's capacity for adaptive self-management of its own resources for high-level computing functions without user input.

Bagging: Bootstrap aggregating, or bagging, is an ensemble algorithm designed to improve the stability and accuracy of machine learning algorithms used in statistical classification and regression.

Base learner: A supervised machine learning algorithm (with a specific set of tuning parameters) used as part of the ensemble.

Boosting: A boosting algorithm iteratively learns weak classifiers and adds them to a final

INDUSTRY CODES

The Standard Industrial Classification (SIC) system was established by the U.S. Government to provide a uniform means for collecting, presenting, and analyzing economic data. The North American Industry Classification System (NAICS), adopted in 1997 by the U.S. Canada, and Mexico, replaced the SIC system and is the new standard for economic data. Please see our [Guide to Industry Research](#) to learn more about industry classification codes.

PLEASE NOTE: To date, artificial intelligence does not have a separate industry code. However, the NAICS Code 541715 does include fields which use artificial intelligence in research and development.

SIC Code 8731 SIC Code 8731 - Commercial Physical and Biological Research

NAICS Code 541715 Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology)

SELECTED BOOK TITLES

2012 Conference on technologies and applications of artificial intelligence.
Piscataway, NJ: Institute of Electrical and Electronic Engineers, Inc., 2012.

LC Call Number: TA347.A78 I577a

LC Catalog Record: <https://lccn.loc.gov/2014204630>

This work includes papers presented at the *2012 Conference on Technologies and Applications of Artificial Intelligence*. The conference brought together scientists, researchers, and practitioners in different disciplines to present and exchange ideas, results, and experiences in the area of AI technologies and applications.

Agrawal, Ajay, Joshua Gans, and Avi Goldfarb. *Prediction machines: the simple economics of artificial intelligence*. Boston: Harvard Business Review Press, 2018.

LC Call Number: TA347 .A78 A385 2018

LC Catalog Record: <https://lccn.loc.gov/2017049211>

The authors assert that understanding the impact of AI in economic terms is fairly simple. Further, that prediction tools increase productivity—operating machines, handling documents, and communicating with customers. Better prediction creates opportunities for new business structures and strategies to

REPRESENTATIVE JOURNAL ARTICLES

The following represent selected journal articles which discuss artificial intelligence as it pertains to business as of the date of this guide. To locate additional titles which may be published after the preparation of this guide, please search available journal indexing sources such as the *AAAI Digital Library*, *ABI Inform*, *Business Source Complete* and *Web of Science*, which are subscription products available to patrons at the Library of Congress, and at other subscribing institutions. To access electronic journal ONSITE at the Library of Congress go to the [E-resources Online](#)

DATABASES

There are many databases that the Library subscribes to that may be of interest. Some of these databases may be available to you in other venues either at a public library or through a university system, but to access the databases we subscribe to you ***have to be on the campus of the Library of Congress.***

Business Insights: Global

<http://eresources.loc.gov/record=e1001004-S9>

Access limited to onsite patrons only.

Provides basic business information for companies that develop integrated systems design for artificial intelligence.

Nielsen Market Reports from the Nielsen Company

<http://www.nielsen.com/us/en/reports.html>

Access limited to onsite patrons only.

Description: The Nielsen Market Reports study consumers in more than 100 countries to give the most complete view of trends and habits worldwide. The site is constantly evolving, not only in terms of where it measures, or who it measures, but in how insights can help drive profitable growth. Whether a business is a multinational enterprise or a single storefront, Nielsen believes innovation is the key to success, in both what is created and how it markets products and ideas. That's why Nielsen continues to develop better solutions to help meet the needs of today's consumers, and find out where they're headed next.

ARTICLE DATABASES

ABI/INFORM (Proquest)

<http://eresources.loc.gov/record=e100026>

Access limited to onsite patrons only.

American Association for Artificial Intelligence (AAAI)

<http://www.aaai.org/Library/library.php>

Free access.

Business Economics & Theory Collection (Gale)

<http://eresources.loc.gov/record=e1001647>

Access limited to onsite patrons only.

Business Full Text (EBSCO)

<http://eresources.loc.gov/record=e10000151>

Access limited to onsite patrons only.

Business Source Complete (EBSCO)

<http://eresources.loc.gov/record=e10000666>

Access limited to onsite patrons only.

EconLit with Full Text (EBSCO)

<http://eresources.loc.gov/record=e10000309>

Access limited to onsite patrons only.

Taylor & Francis Online

<http://eresources.loc.gov/record=e10000254>

Access limited to onsite patrons only.

Web of Science Core Collection (Clarivate Analytics)

<http://eresources.loc.gov/>

CONFERENCES, PAPERS AND PROCEEDINGS

To find information on conferences, proceedings and papers, you can check the following online services that are available **on site only** at the Library of Congress; or check with a local library for additional assistance.

Conference Proceedings Citation Index: Science

<http://eresources.loc.gov/record=e1001435~S9>

Available to onsite patrons and other subscribers

Coverage: 1990 to present.

This database fully indexes more than 148,000 proceedings from the most significant conferences, symposia, seminars, colloquia, workshops, and conventions in the sciences and social sciences worldwide. Over 12,000 conference titles added annually.

IEEE Xplore Digital Library

<http://eresources.loc.gov/record=e1001804~S9>

IEEE Xplore provides web access to more than 4-million full-text documents from some of the world's most highly cited publications in many areas of science including bioengineering.

CURRENT LEGISLATION

This section offers sources for current federal legislative and regulatory information.

Congress.gov

<https://www.congress.gov/>

This is the official site for U.S. federal legislative information that provides accurate, timely, and complete legislative information including records for every bill going back to 1973, the full text of bills from 1989 and the full text of laws from 1995. Congressional Record daily issues from 1995 can be accessed in full text as well. Also included are committee hearings and reports, members information and more. Legislative actions on issues concerning drones can be found by keyword search on the site. **SEARCH: Artificial Intelligence.**

Code of Federal Regulations

<https://www.govinfo.gov/help/cfr>

The Code of Federal Regulations (CFR) annual edition is the codification of the general and permanent rules published in the Federal Register by the departments and agencies of the Federal Government. It is divided into 50 titles that represent broad areas subject to Federal regulation. The 50 subject matter titles contain one or more individual volumes, which are updated once each calendar year, on a staggered basis. For regulations on drones use the following terms: Drones, UAV and UAS.

ASSOCIATIONS/ ORGANIZATIONS

Included in this list are both U.S. and overseas associations and organizations.

Associacio Catalana d'Intel·ligencia Artificial (ACIA).

<http://www.acia.cat>

Works for the advancement of Artificial Intelligence (AI) in Catalan society. Fosters communication between individuals and organizations involved in AI. Promotes social, cultural, scientific, economic and governmental awareness of AI. Also known as: Catalan Association for Artificial Intelligence.

Association for Automatic Language Processing.

<http://www.atala.org>

Contributes to the development of automatic language processing and promotes communication among processing and promotes communication among professionals in the industry, at universities, or in research organizations who are interested in this field.

Association for Computing Machinery Special Interest Group on Artificial Intelligence (SIGART).

<http://www.sigart.org>

A special interest group of the Association for Computing Machinery. Individuals interested in the application of computers to tasks normally requiring

LC SUBJECT HEADINGS

Agricultural machinery—Automatic control

Algorithms

Artificial intelligence

Artificial intelligence—Congresses

Artificial intelligence—Economic aspects

Artificial intelligence—Industrial applications

Artificial intelligence—Social aspects

Artificial intelligence—Philosophy

Automobile industry and trade—Environmental aspects

Automobile industry and trade—Government policy

Automobile industry and trade—Technological innovations

Automobiles—Automatic control

Autonomous robots

Autonomous vehicles

Big data—Social aspects

Big data—Statistical methods—Handbooks, manuals, etc.

Business—Computer network resources

Business intelligence

Business intelligence—Handbooks, manuals, etc.

Business intelligence—Periodicals

Business intelligence—Research—Periodicals

Business planning

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- ❑ **Current Legislation:** This is the official site for U.S. Federal legislative information. Why this is very important. <https://www.congress.gov/>
- ❑ **Associations/Organizations:** Gale Virtual Reference Library. http://go.galegroup.com/ps/start.do?p=GVRL&u=loc_main&authCount=1

For reference, a published research guide can be found here:

https://www.loc.gov/rr/business/drones/drones_main.html

Business Applications of Drone Technology

From Google Chrome

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Business Reference Services SCIENCE, TECHNOLOGY & BUSINESS DIVISION

Home >> Bibliographies & Guides >> Business Applications of Drone Technology

Find in Business Reference Pages

Business Applications of Drone Technology: Innovation and the Use of Unmanned Aircraft

December 2017

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SELECTED BOOK TITLES

Ambrosio, Donovan, ed. *Domestic drones: elements and considerations for the U.S.* New York, Nova Science Publishers, [2014]. 151 p.
LC Call Number: TL718 D76 2014
LC Catalog Record: [2014466425](#)

Includes discussion of selected legal references to include Congressional interest and related legislation.

Image (left): Drone Co-habitation Services operates a Phantom 3 commercial multi-rotor unmanned aircraft. Photograph by Dominic Hart. Courtesy of NASA. MEDIA ADVISORY M16-120, October 13, 2016

Autonomous flying robots: unmanned aerial vehicles and micro aerial vehicles. Compiled by Kenzo Nonami [et al.]. Tokyo; New York, Springer, c2010.
LC Call Number: UG1242 D7 A88 2010
LC Catalog Record: [2010931387](#)

drone Highlight All Match Case Whole Words 1 of 1 match

