



Artificial intelligence strategy

- 2018-2022 USPTO Strategic Plan:
 - Optimize development and delivery of information technology tools, including artificial intelligence and machine learning, for internal users of patent systems to ensure that they have the tools they need for a thorough search and examination.*



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* Goal I: Optimize patent quality and timeliness; Objective 3: Foster innovation through business effectiveness

USPTO AI landing page

www.uspto.gov/initiatives/artificial-intelligence

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Artificial intelligence resources



Find a collection of resources devoted to shaping the Administration's and federal government's approach to artificial intelligence (AI).

AI-related patent resources

A non-inclusive list of the current USPTO guidance and training material on patent subject matter eligibility and disclosure of computer-implemented inventions, along with related PTAB and petition decisions is listed below.

AI-related examination guidance

AI-related inventions can be viewed as a subset of computer-implemented inventions. Therefore, USPTO guidance regarding computer-implemented inventions can be a useful resource.

Subject matter eligibility

- MPEP 2106 provides general guidance on subject matter eligibility.
- MPEP 2106.04(a) discusses the abstract idea exceptions.
- Current examiner training on subject matter eligibility.
- [Subject Matter Eligibility Examples: Abstract Ideas - Example 39](#)

Compliance with 35 U.S.C. 112

- MPEP 2161.03 provides guidance on disclosure requirements for computer-implemented functional claim limitations.
- MPEP 2181 provides general guidance for examining means plus function (35 U.S.C. 112(f)) limitations. MPEP 2181.01(b) provides guidance on the description necessary to support a claim limitation that invokes 35 U.S.C. 112(f).
- MPEP 2121.02(a) discusses functional limitations that do not invoke 35 U.S.C. 112(f).
- Examiner training on [Examining Computer-Implemented Functional Claim Limitations for Compliance with 35 U.S.C. 112](#).

Artificial Intelligence Patent Dataset (AIPD)

- The USPTO Office of the Chief Economist released the [Artificial Intelligence Patent Dataset \(AIPD\)](#)—identifying United States patents and pre-grant publications that include AI.



Recent AI policy developments

- Administrative Conference of the United States (ACUS) published a [statement on government agency use of AI](#)
 - Identifies issues agencies should consider when adopting or modifying AI systems

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AI priorities for patents

- Patent search
 - AI search prototype tool
 - Exploring image search
- Patent classification
 - Cooperative Patent Classification (CPC) symbols
 - Indicators for claimed subject matter

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AI patent search prototype

Vision: Assist the examiner in retrieving all potentially relevant prior art references for review at the earliest stage of prosecution.

- Enhance patent quality through increased search effectiveness
- Released “More Like This Document” (MLTD) in PE2E Search
 - Retrieves most similar documents by user selection
 - Includes US patents / Pubs, and patent documents from the 61 foreign countries loaded into Search
- Official Gazette notice “New PE2E Search Tool Using AI Search Features Using MLTD” issued on January 11th, 2022

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Outlook for AI search

- Continue assessing and monitoring value of AI
- Incorporate feedback to further mature system
- Development of future AI search capabilities
- Public communication and future accessibility

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Patent auto-classification

Vision: Develop auto-classification system to generate CPC data to meet internal needs and international obligations for classification.

- The USPTO is developing and validating an AI-based auto-classification system
 - Full classification of patent documents
 - Identification of symbols associated with claims (called C* or “C-stars”)

CPC allocations	C*
G01S 7/4863	★
G01S 7/4865	★
G01S 7/4917	
G01S 13/89	★
G01S 7/4914	★
G01S 17/894	

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Opportunities for value

- Support patent classification quality
 - Correctness
 - Completeness
 - Consistency
- Possible operational efficiency gains
- Potential for reductions of internal costs

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Outlook for auto-classification

- Utilization of AI to identify CPC symbols on application associated with claimed subject matter (auto-C*s)
 - Utilization of auto-C*s for subset of new utility patent filings starting Dec 2020
 - As of Mar. 2022, fully expanded auto-C* to all new utility patent filings
- Analysis and assessment of auto-classification tool for full classification picture underway



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Looking ahead: patent data for AI

- AI can be used in patent practice & examination.
- But patent data can also be used in state-of-the-art AI research!
- Virtuous cycle:
 - Advances in AI research can foster efficiencies in patent examination.
 - Data from patent examination can fuel the next advances in AI research.



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The Pile (2020)

2.9 USPTO Backgrounds

USPTO Backgrounds is a dataset of background sections from patents granted by the United States Patent and Trademark Office, derived from its published bulk archives⁵. A typical patent background lays out the general context of the invention, gives an overview of the technical field, and sets up the framing of the problem space. We included USPTO Backgrounds because it contains a large volume of technical writing on applied subjects, aimed at a non-technical audience.

nductivity types), it is necessary that at least some process is steps differentiate between p-type and n-type transistors. Separate implant steps, for example, are needed to define n-well and p-well structures and to dope the source/drain regions of n-channel and p-channel transistors. Whenever possible, however, it is generally desirable to use a single process step to define transistor features regardless of the transistor type. Single process steps imply a single mask step, which is always desirable to



US Patent Phrase To Phrase Matching

#	Team	Members	Score	Entries	Last	Code
1			0.848	9	5d	
2			0.848	61	18h	
3			0.847	81	10h	
4			0.847	22	1d	
5			0.846	8	16d	
6			0.846	29	2d	
7			0.846	46	3h	
8			0.845	24	14h	



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