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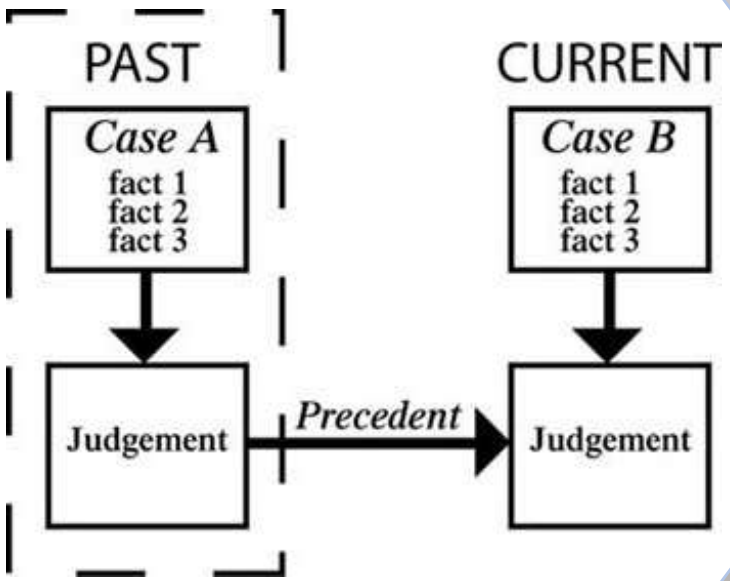
Kaifei Peng
May 7th, 2019

Extracting Legal Information from Patent Cases

Introduction



- Litigation: The matching problem between *precedents* and *current case at issue*
  - It costs a lot to search for the right case

Google Scholar

patent prior art federal circuit

Case law

About 33,900 results (**0.13** sec)

Case law
Federal courts
California courts
Select courts...

Any time
Since 2019
Since 2018
Since 2015
Custom range...

Sort by relevance
Sort by date

include citations

Create alert

Phillips v. AWH Corp.

415 F. 3d 1303 - Court of Appeals, **Federal Circuit**, 2005 - Google Scholar

… In re Nelson, 47 CCPA 1031, 280 F.2d 172, 181 (1960) ("The descriptions in **patents** are not … that the specification "describe the manner and process of making and using" the **patented** invention … but also with reference to the file wrapper or prosecution history in the **Patent** Office …

☆ 99 Cited by 5973 How cited Related articles

KSR Intern. Co. v. Teleflex Inc.

550 US 398, 127 S. Ct. 1727, 167 L. Ed. 2d 705 - Supreme Court, 2007 - Google Scholar

… Other **patents** disclose electronic sensors attached to adjustable pedal assemblies … to the circumstances surrounding the origin of the subject matter sought to be **patented**." While the … has employed a "teaching, suggestion, or motivation" (TSM) test, under which a **patent** claim is …

☆ 99 Cited by 4245 How cited Related articles All 3 versions

Vitronics Corp. v. Conceptronic, Inc.

90 F. 3d 1576 - Court of Appeals, **Federal Circuit**, 1996 - Google Scholar

… of the claims themselves, both asserted and nonasserted, to define the scope of the **patented** invention … As such, the record before the **Patent** and Trademark Office is often of critical significance in … an analysis of the file history may be an examination of the **prior art** cited therein …

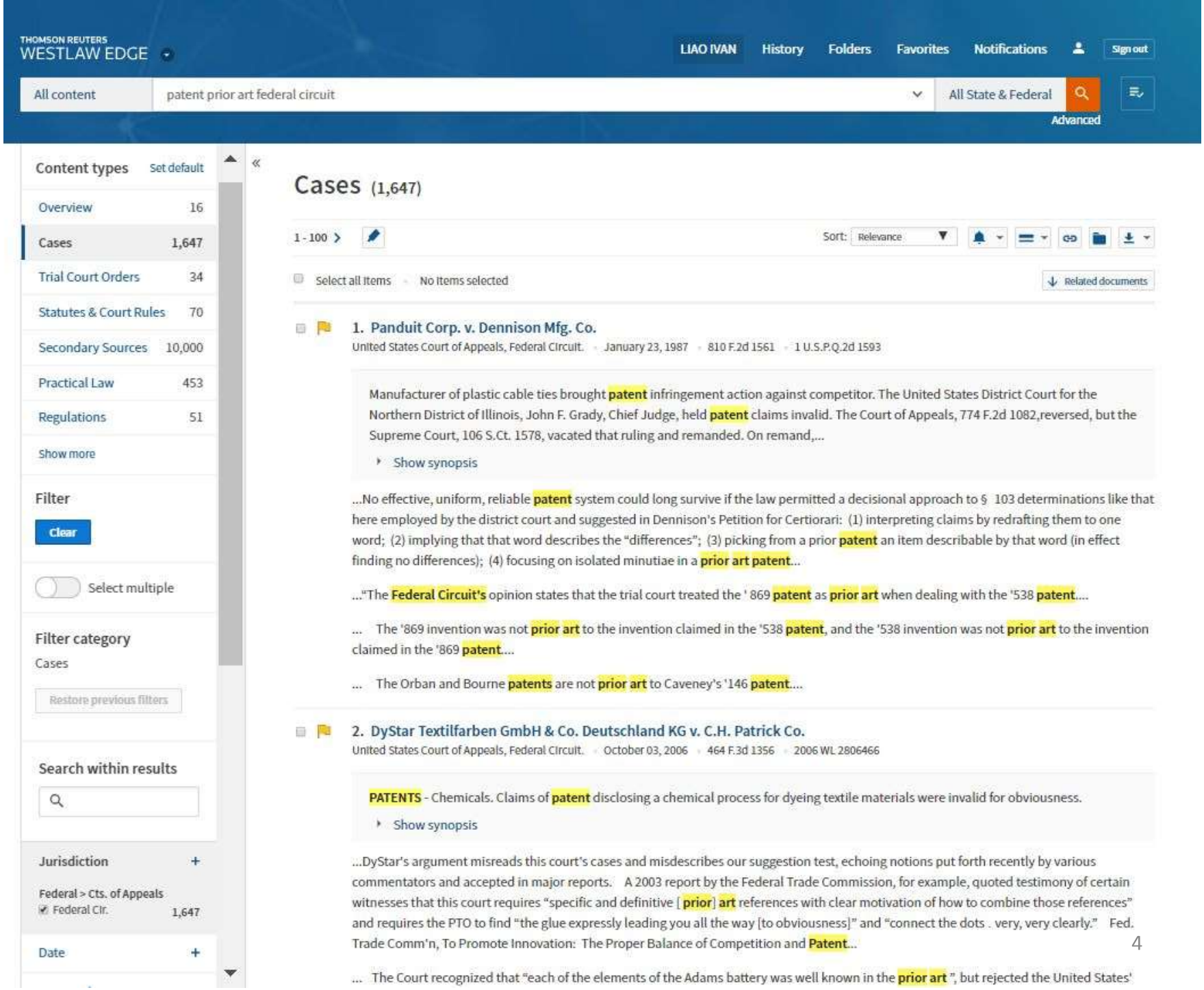
☆ 99 Cited by 4463 How cited Related articles

Graham v. John Deere Co. of Kansas City

383 US 1, 86 S. Ct. 684, 15 L. Ed. 2d 545 - Supreme Court, 1966 - Google Scholar

… Simplified drawings of each of these **patents** are reproduced in the Appendix, Figs … it in the language of the statute—that we must consider the subject matter sought to be **patented** taken as … But the history of the prosecution of the Scoggin application in the **Patent** Office reveals a …

☆ 99 Cited by 7990 How cited Related articles


THOMSON REUTERS
WESTLAW EDGE
LIAO IVAN
History
Folders
Favorites
Notifications
Sign out
All content
patent prior art federal circuit
All State & Federal
Advanced
Content types
Set default
Overview 16
Cases 1,647
Trial Court Orders 34
Statutes & Court Rules 70
Secondary Sources 10,000
Practical Law 453
Regulations 51
Show more
Filter
Clear
Select multiple
Filter category
Cases
Restore previous filters
Search within results
Jurisdiction
Federal > Cts. of Appeals
Federal Cir. 1,647
Date
Cases (1,647)
1 - 100
Sort: Relevance
Select all items
No items selected
Related documents
1. Panduit Corp. v. Dennison Mfg. Co.
United States Court of Appeals, Federal Circuit. January 23, 1987 810 F.2d 1561 1 U.S.P.Q.2d 1593
Manufacturer of plastic cable ties brought patent infringement action against competitor. The United States District Court for the Northern District of Illinois, John F. Grady, Chief Judge, held patent claims invalid. The Court of Appeals, 774 F.2d 1082,reversed, but the Supreme Court, 106 S.Ct. 1578, vacated that ruling and remanded. On remand,...
Show synopsis
...No effective, uniform, reliable patent system could long survive if the law permitted a decisional approach to § 103 determinations like that here employed by the district court and suggested in Dennison's Petition for Certiorari: (1) interpreting claims by redrafting them to one word; (2) implying that that word describes the "differences"; (3) picking from a prior patent an item describable by that word (in effect finding no differences); (4) focusing on isolated minutiae in a prior art patent...
..."The Federal Circuit's opinion states that the trial court treated the ' 869 patent as prior art when dealing with the '538 patent....
... The '869 invention was not prior art to the invention claimed in the '538 patent, and the '538 invention was not prior art to the invention claimed in the '869 patent....
... The Orban and Bourne patents are not prior art to Caveney's '146 patent....
2. DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.
United States Court of Appeals, Federal Circuit. October 03, 2006 464 F.3d 1356 2006 WL 2806466
PATENTS - Chemicals. Claims of patent disclosing a chemical process for dyeing textile materials were invalid for obviousness.
Show synopsis
...DyStar's argument misreads this court's cases and misdescribes our suggestion test, echoing notions put forth recently by various commentators and accepted in major reports. A 2003 report by the Federal Trade Commission, for example, quoted testimony of certain witnesses that this court requires "specific and definitive [prior] art references with clear motivation of how to combine those references" and requires the PTO to find "the glue expressly leading you all the way [to obviousness]" and "connect the dots . very, very clearly." Fed. Trade Comm'n, To Promote Innovation: The Proper Balance of Competition and Patent...
... The Court recognized that "each of the elements of the Adams battery was well known in the prior art ", but rejected the United States'

IE from Patent Cases

- Extracting important information from court decisions about patent cases
  - Regular expression-related
    - Parties
    - District court
    - Court rulings (district court & circuit court)
  - NLP-related
    - Key patent phrases (patent terms)
    - Key patent description (patent sentence)

Example:
Amazon.com, Inc. v. Barnesandnoble.com, Inc., 239 F.3d 1343 (Fed. Cir. 2001)

1. **Plaintiff**: Amazon.com, Inc.
2. **Defendant**: barnesandnoble.com, inc., and barnesandnoble.com llc
3. **Appellant**: barnesandnoble.com, inc., and barnesandnoble.com llc
4. **Appellee**: Amazon.com, Inc.
5. **District Court**: United States District Court for the Western District of Washington
6. **District Court Ruling**: In favor of plaintiff
7. **Circuit Court Ruling**: In favor of appellant: Vacated and remanded

Example (Cont.)

8. **Key Phrases**: preliminary injunction, prior art, single action, shopping cart, server system, client system, purchase order, web site
9. **Patent Terms**: 1–Click, single action ordering, client/server environment
10. **Patent Summary**: “Amazon’s patent is directed to a method and system for “single action” ordering of items in a client/server environment such as the Internet.”

Data

- From *WestLaw*
  - Tedious data cleaning, eg. sentencizing & tokenizing
- Court decisions about *patent litigation*
  - From *US Court of Appeals for the Federal Circuit*
- **220** manually annotated cases
  - 2 representative patent terms
  - 1 representative sentence
- Training 70% / validation 15% / test set 15%:
  - 154 / 33 / 33

Method: Regular Expression

AMAZON.COM, INC., Plaintiff–Appellee,

v.

BARNESANDNOBLE.COM, INC., and Barnesandnoble.Com, LLC, Defendants–Appellants.

No. 00–1109.

United States Court of Appeals, Federal Circuit.

Feb. 14, 2001.

Patentee brought action against competitor, alleging infringement of patent claiming a "1–Click®" method and system for placing a purchase order over the Internet. Patentee's motion for preliminary injunction was granted by the United States District Court for the Western District of Washington, Marsha J. Pechman, J., 73 F.Supp.2d 1228, and competitor appealed. The Court of Appeals, Clevenger, Circuit Judge, held that: (1) patentee demonstrated likely literal infringement of at least the four independent claims of the patent, but (2) competitor mounted a serious challenge, based on obviousness in light of on prior art, to the validity of the patent, precluding preliminary injunction.

Vacated and remanded.

Method: Regular Expression

Plaintiff & Appellee

AMAZON.COM, INC., Plaintiff–Appellee,

v.

Defendants & Appellants

BARNESANDNOBLE.COM, INC., and Barnesandnoble.Com, LLC, Defendants–Appellants.

(District Court Ruling)

No. 00–1109.

United States Court of Appeals, Federal Circuit.

Feb. 14, 2001.

Patentee brought action against competitor, alleging infringement of patent claiming a "1–Click®" method and system for placing a purchase order over the Internet. Patentee's motion for preliminary injunction was granted by the United States District Court for the Western District of Washington, Marsha J. Pechman, J., 73 F.Supp.2d 1228, and competitor appealed. The Court of Appeals, Clevenger, Circuit Judge, held that: (1) patentee demonstrated likely literal infringement of at least the four independent claims of the patent, but (2) competitor mounted a serious challenge, based on obviousness in light of on prior art, to the validity of the patent, precluding preliminary injunction.

District Court

Vacated and remanded.

Circuit Court Ruling

Method: Patent Terms

1. Noun phrases (Multiword) + **TF-IDF**
   - Exclusion and removal rules
   - Lemmatization: Merging similar phrases
   - Modified formula
2. Noun phrases + TF-IDF + **Logistic Regression**
   - (r)
   - TF-IDF scores
   - POS tags
   - Word shape (Capitalized, numerical, symbols, etc.)

Method: Patent Sentence

1. **Logistic Regression**
   - Grammar features: “The OOO patent,” “is directed to,” “claimed,” “discloses,” etc.
   - Example: Amazon’s patent is directed to a method and system for “single action” ordering of items in a client/server environment such as the Internet.
2. **CNN**

Analysis

- **Metrics**:
  - Ranking
  - Percentage of terms and sentences lied within top 5
- **Patent terms:**
  - TF-IDF:
  - Logistic Regression:
- **Patent sentence**:
  - Logistic Regression:
  - CNN:
    - Suffered from overfitting

Analysis

- **Subjectivity & annotation rule matters!**

Conclusion and Future Work

- Using Bidirectional LSTM + Attention on sentence extraction
- Extracting Court opinions
- Case summarization