

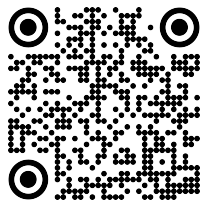
Developing a Large Language Model for Swiss Cases on Choice of Law

Empirical Insights and Challenges for Automated Legal Analysis in PIL

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Slides and data
available on Github

COLD

UNIVERSITÄT
LUZERN

 Swiss National
Science Foundation



"I'm sorry, Agatha. I'm afraid I can't do that."

HAL 9000 (2001: A Space Odyssey)

Case Analyzer

Technology: OpenAI GPT 4o customized for our needs

Experiment: LLMs are good at text generation (creating new word sequences based on input); but can a model understand the semantic and contextual nuances of court decisions in a specific realm such as choice of law?

Goal: Obtain a high-quality case law interpretation that is comparable to answers by private international law experts

Dataset

Nr.	Title	Year	Language
1	BGE 131 III 289	2005	German
2	BGE 81 II 175	1955	German
...
33	BGE 140 III 473	2014	German

Tasks

- | | | |
|------------------------|---|--|
| 1. Abstract | → | Provide translated abstract |
| 2. Relevant Facts | → | Summarize factual elements,
emphasize cross-border issues |
| 3. PIL Provisions | → | List conflicts-of-law rules |
| 4. Classification | → | Identify subtopic related to party
autonomy |
| 5. Choice of Law Issue | → | Formulate question(s) about PIL
dispute |
| 6. Court's Position | → | Explain how the court addressed
question |

Tasks → Functions

1. Abstract	→	Provide translated abstract	→	Extraction
2. Relevant Facts	→	Summarize factual elements, emphasize cross-border issues	→	Extraction / Summarization
3. PIL Provisions	→	List conflicts-of-law rules	→	Extraction
4. Classification	→	Identify subtopic related to party autonomy	→	Classification
5. Choice of Law Issue	→	Formulate question(s) about PIL dispute	→	Classification → Interpretation
6. Court's Position	→	Explain how the court addressed question	→	Extraction / Interpretation

Tasks → Functions

1. Abstract	→	Extraction
2. Relevant Facts	→	Extraction / Summarization
3. PIL Provisions	→	Extraction
4. Classification	→	Classification
5. Choice of Law Issue	→	Classification → Interpretation
6. Court's Position	→	Extraction / Interpretation

Prompting Structure

Choice of Law Issue

Your task is identifying the main Private International Law issue from a court decision. Your response will be a concise yes or no question. The issue you extract will have to do with Choice of Law and the output has to be phrased in a general fashion. The issue is not about the specific details of the case, but rather the overall choice of law issue behind the case. If any legal provisions are mentioned, use their English abbreviation.

The "Case Analyzer" Experiment

Files

main

Go to file

airtable_retrieval.py

local_file_retrieval.py

llm_handler

__init__.py

fine_tuning.py

model_access.py

prompts

abstract.txt

facts.txt

issue.txt

issue_classification.txt

position.txt

rules.txt

README.md

config.py

main.py

.gitignore

README.md

cold-case-analysis / cold_case_analyzer / main.py

simonweigold Format code using black 7b1b5d6 · 4 days ago History

Code Blame 106 lines (82 loc) · 3.45 KB

Raw Download Edit

```
1 import os
2 import pandas as pd
3 from datetime import datetime
4 from data_handler.airtable_retrieval import fetch_data
5 from data_handler.airtable_concepts import fetch_and_prepare_concepts
6 from data_handler.local_file_retrieval import fetch_local_data, fetch_local_concepts
7 from case_analyzer import CaseAnalyzer
8 from config import AIRTABLE_CD_TABLE
9 import questionnaire
10
11
12 def main_own_data(model_name):
13     df = fetch_local_data()
14     print("df: ", df)
15     print("type: ", type(df["Original text"]))
16     concepts = fetch_local_concepts()
17     print("concepts: ", concepts)
18
19     print("Now starting the analysis...")
20     results = []
21
22     # Analyze each case
23     for i, (idx, text) in enumerate(df["Original text"].items(), start=1):
24         quote = df["Quote"].iloc[i - 1]
25         print(f"Now analyzing case {i}\n")
26         analyzer = CaseAnalyzer(text, quote, model_name, concepts)
27         analysis_results = analyzer.analyze()
28
```

Evaluation

Process

Pre-defined parameters to define how the task is successfully accomplished

Peer-review process

Comparison with ground truth

Evaluation criteria

Accuracy and conciseness

Can case analyzer grasp choice of law issue?

Adherence to format

Results: Abstract

1st Case | BGE 130 III 620



Generated by Case Analyzer

Consideration of third-country intervention norms under Art. 19 of the Swiss Private International Law Act (PILA); prerequisites and exceptional nature of Art. 19 PILA. Conditions that must be met under Art. 19(1) PILA for a third-country intervention norm to apply (Sections 3.3-3.5). The consideration of such norms must remain exceptional and is particularly not applicable when the PILA itself provides a special regulation. The legal assistance provided in Art. 166 et seq. PILA for the recognition of a foreign bankruptcy decree constitutes such a special regulation (Section 3.5.1).



Bundesgericht

Regeste. Berücksichtigung drittstaatlicher Eingriffsnormen nach Art. 19 IPRG; Tatbestandsvoraussetzungen und Ausnahmecharakter von Art. 19 IPRG.

Voraussetzungen, die gemäss Art. 19 Abs. 1 IPRG erfüllt sein müssen, damit eine drittstaatliche Eingriffsnorm Anwendung findet (E. 3.3-3.5).

Die Berücksichtigung derartiger Normen muss die Ausnahme bleiben und kommt insbesondere nicht in Frage, wenn das IPRG selbst eine Sonderregelung vorsieht. Die in Art. 166 ff. IPRG zwecks Anerkennung eines ausländischen Konkursdekrets zur Verfügung gestellte Rechtshilfe stellt eine solche Sonderregelung dar (E. 3.5.1).

Results: Relevant Facts

2nd Case | BGE 132 III 285



Generated by Case Analyzer

A.B. and B.B., residents of Greece, filed a lawsuit on December 19, 2003, in the District Court of Zurich against X., seeking an account of X.'s activities as their deceased father's agent, the release of various documents, and 50% of the shares in a company based in Vaduz, which their father co-founded. The shares were held in a trust arrangement involving X. as the attorney for both business partners. X. contested the existence of a contractual relationship and the jurisdiction of the court. The District Court, relying on the plaintiffs' claim of a contractual relationship, determined its jurisdiction under the Lugano Convention, noting that X. resided in Spain and not Switzerland. The court found jurisdiction at the place of performance under Art. 5(1) of the Lugano Convention, applying Swiss law per Art. 117 of the Swiss Private International Law Act (PILA), as X. was domiciled in Zurich at the contract's conclusion, and his subsequent relocation did not result in a change of applicable law. The District Court rejected X.'s objection to jurisdiction on January 25, 2005, a decision upheld by the Zurich High Court on June 1, 2006. X. appealed to the Federal Court, which dismissed the appeal, affirming that the contract's closest connection remained with Swiss law, as the contract was functionally oriented towards the unchanged performance of the agreed service, irrespective of X.'s relocation.

Results: PIL Provisions and Classification

Provisions

Theme

1st Case | BGE 130 III 620

 Art. 19 PILA, Art. 166 ff. PILA

 Mandatory rules

2nd Case | BGE 132 III 285

 Art. 116 PILA, Art. 129 CO

 Non-State law
(rules of law)

3rd Case | BGE 133 III 90

 Art. 117 PILA

 Connecting factors

Results: Choice of Law Issue

2nd Case | BGE 132 III 285



Generated by Case Analyzer

Can parties choose non-state rules, such as those established by private organizations, as the governing law for their contract under Article 116 of the Swiss Private International Law Act (IPRG)?



Human (Ground Truth)

Can parties choose the rules of a private association (non-State law) as the governing law of their agreement?

Results: Court's Position

1st Case | BGE 130 III 620



Generated by Case Analyzer

In addressing the choice of law issue under Article 19 of the Swiss Private International Law Act (IPRG), the court's position is that **the application of overriding mandatory rules from a third country is permissible only under specific conditions. These conditions include: (1)** the third country's rule must be intended to apply internationally and mandatorily; **(2)** there must be a significant connection between the facts of the case and the legal system of the third country; and **(3)** the interests involved must be deemed worthy of protection and clearly predominant according to Swiss legal principles. **Additionally**, the consideration of such third-country norms should be an exception rather than the rule and is not applicable if the IPRG itself provides a special regulation for the matter at hand. The court **emphasizes** that the purpose and consequences of applying the third-country norm must align with a decision that is appropriate under Swiss legal views. In this case, the court found that the Swiss legal framework already provided mechanisms to address the interests protected by the third-country norm, thus negating the need to apply the foreign mandatory rule.

Challenges – secondary information

Provisions

Theme

**BGE 130 III
620**



Art. 19 PILA, ~~Art. 166 ff. PILA~~



Mandatory rules

BGE 132 III 285



Art. 116 PILA, ~~Art. 129 CO~~



Non-State law
(rules of law)

BGE 133 III 90



Art. 117 PILA



~~Connecting factors~~ Absence of choice

Challenges – irrelevant information

2nd Case | BGE 132 III 285 Factual Description



Generated by Case Analyzer

The case involves X. AG, a company based in St. Gallen, Switzerland (plaintiff), and Y., a Greek corporation (defendant). On August 16, 1999, X. AG, represented by a FIFA agent, entered into a contract with Y. for the transfer of a player. The agreement stipulated payments to X. AG of USD 15,000 by September 30, 1999, another USD 15,000 by December 30, 1999, contingent on the extension of the player's contract until June 30, 2000, and further payments of USD 30,000 by December 30, 2000, and USD 30,000 by December 30, 2001, if the contract was extended for two more years. On February 5, 2003, X. AG filed a lawsuit at the Commercial Court of the Canton of St. Gallen, claiming USD 15,000 with 5% interest from September 30, 1999, USD 15,000 with 5% interest from December 30, 1999, and USD 30,000 with 5% interest from December 30, 2000. The defendant did not participate in the proceedings. The Commercial Court dismissed the claim, leading X. AG to appeal to the Federal Supreme Court, seeking to overturn the decision. The contract included a choice of (...)



Human Response

X. AG (plaintiff), represented by a FIFA agent, concluded a contract with Y. (defendant), a Greek public limited company, for the transfer of player represented by the plaintiff. On February 5, 2003, the plaintiff filed a lawsuit before the Commercial Court of the Canton of St. Gallen and demanded from the defendant "USD 15,000 plus 5% interest since September 30, 1999", "USD 15,000 plus 5% interest since December 30, 1999" and "USD 15,000 plus 5% interest since December 30, 1999 and USD 30,000 plus 5% interest since 30.12.2000". On February 5, 2003, The defendant did not participate in the proceedings and did not submit a response. The Commercial Court dismissed the action: lawsuit. The plaintiff

Challenges – lengthy responses

3rd Case | BGE 133 III 90 Court's Position



Generated by Case Analyzer

In addressing the choice of law issue under Article 117 of the Swiss Private International Law Act (PILA), the court held that a change in the residence of the party providing the characteristic performance in a long-term contractual relationship does not automatically necessitate a change in the applicable law. The court emphasized that the presumptions established in Article 117 PILA aim to ensure legal certainty and predictability. Allowing a party to unilaterally influence the applicable law through actions such as changing residence would undermine these objectives and contradict the spirit of contract law, which does not permit one party to unilaterally alter the contract's content. The court further noted that for a change in the applicable law to be justified, there must be a significant shift in the contract's connection to a new legal system, which was not evident in this case. The contract was functionally oriented towards the consistent performance of the agreed-upon duties, regardless of the provider's location. Therefore, the closest connection remained with the legal system that governed the contract at the time of its conclusion. The court concluded that the change in residence did not result in a shift of the contractual relationship's center of gravity, and thus, the original applicable law continued to govern the contract.



Human (Ground Truth)

Although this cannot be excluded in general, it is not justified in the present case because the resulting law has no connection with the contract. In any event, legal certainty and predictability must be taken into account when determining the law applicable to the contract.

Conclusion

Success rate: 92%

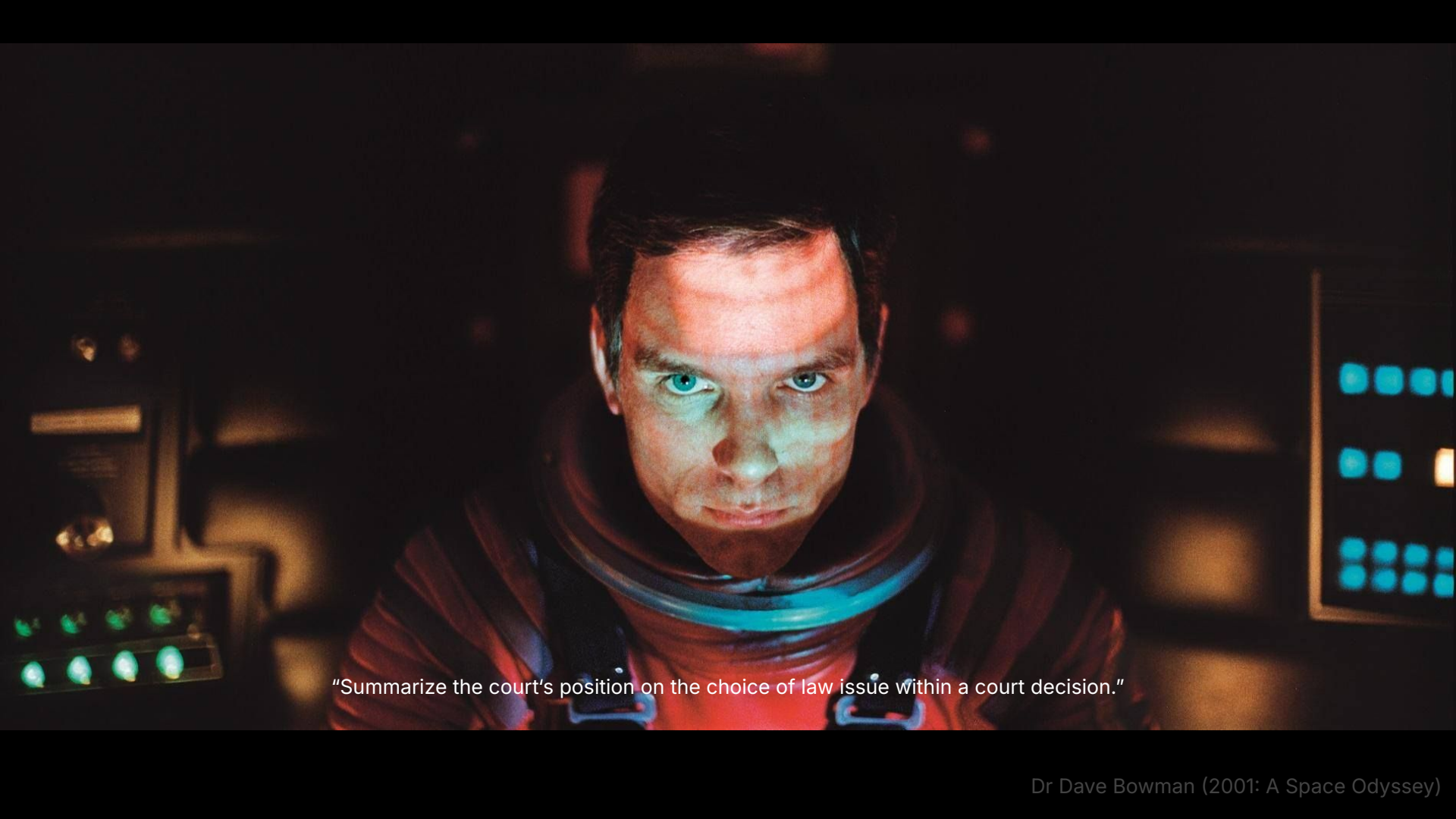
Out of 33 cases evaluated under 14 criteria, 426 of 462 outputs were above average

Best functions: Information extraction and classification

Functions combined → Legal syllogism, ideal for case law interpretation

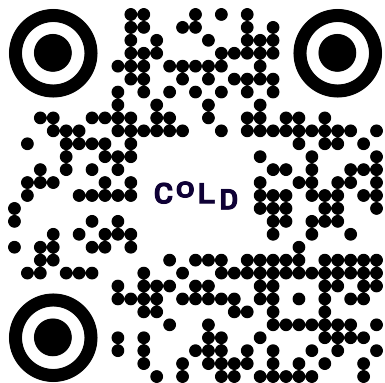
Lessons:

1. Be as precise as possible in your prompting;
2. If the output does not match expectations, most likely it means the instructions were not comprehensive enough (it should include "don'ts") and foresee many possibilities.
3. Go back, adapt the prompt and run new results for the whole dataset (for consistency's sake).

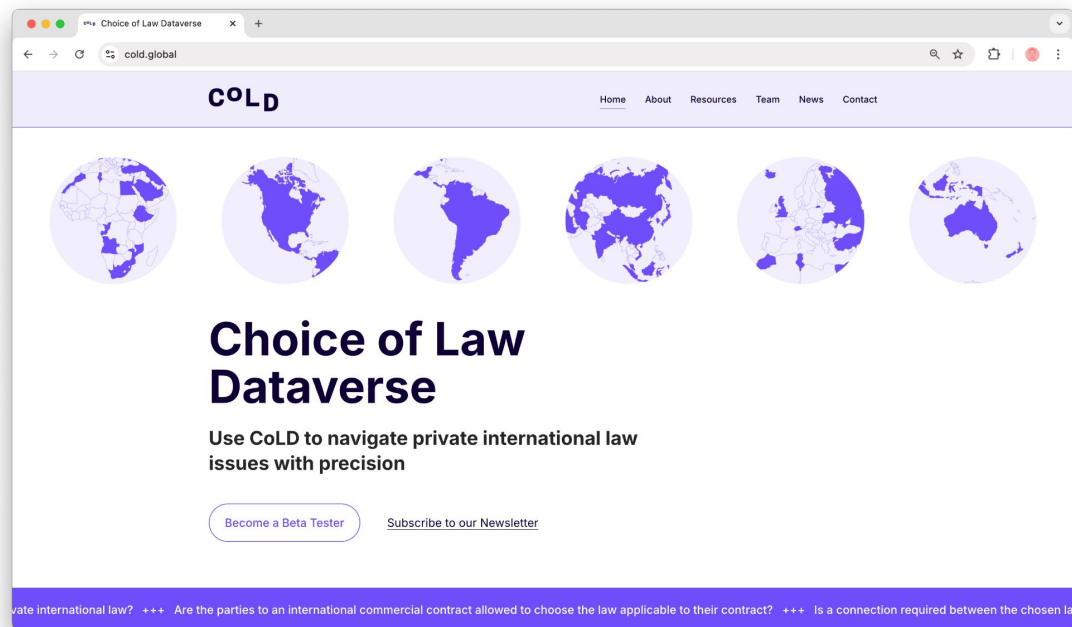


"Summarize the court's position on the choice of law issue within a court decision."

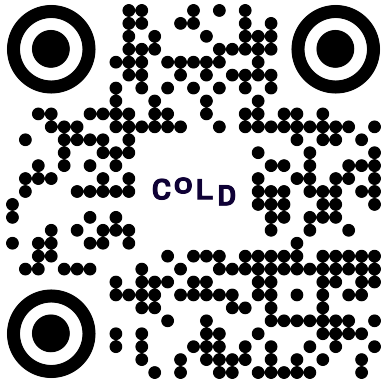
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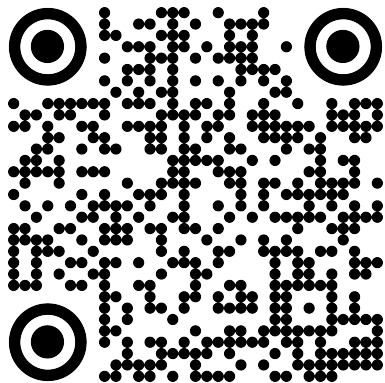


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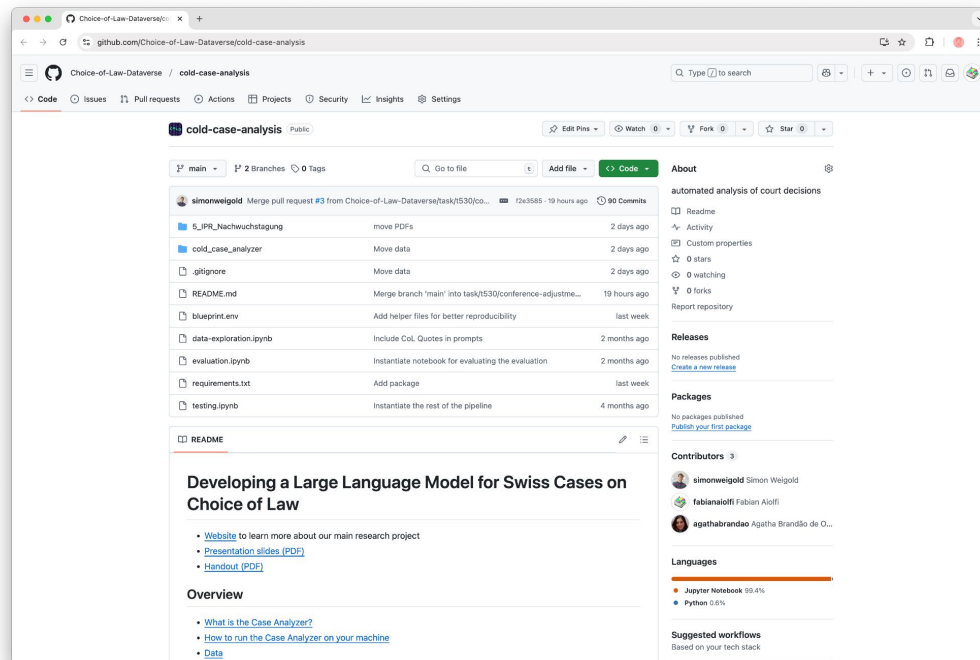


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Build your own case analyzer



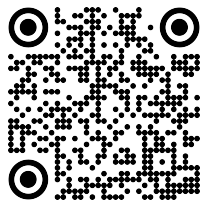
Case Analyzer on Github



Thank you!

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available on Github

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