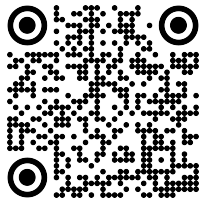


# Developing a Large Language Model for Swiss Cases on Choice of Law

## Empirical Insights and Challenges for Automated Legal Analysis in PIL

Agatha Brandão, Simon Weigold, Olga Shpakova, Rorick Tovar, Fabian Aiolfi,  
Dominic McMahon, and Daniel Girsberger

[agatha.brandao@unilu.ch](mailto:agatha.brandao@unilu.ch)  
[simon.weigold@unilu.ch](mailto:simon.weigold@unilu.ch)



Slides and data  
available on Github

**COLD**





"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

# 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

- |                               |   |   |
|-------------------------------|---|---|
| <b>1. Abstract</b>            | → | Providing the official abstract and its accurate translation.                               |
| <b>2. Relevant Facts</b>      | → | Summarize the key factual and procedural background, emphasizing the cross-border elements. |
| <b>3. PIL Provisions</b>      | → | List only the pivotal conflicts-of-law principles or precedents.                            |
| <b>4. Classification</b>      | → | Identify the main topic related to the thematic scope (party autonomy).                     |
| <b>5. Choice of Law Issue</b> | → | Formulate the core question(s) that define the PIL dispute.                                 |
| <b>6. Court's Position</b>    | → | Explain how the court addressed the question and the final result.                          |

# Tasks → Functions

Information extraction

Summarization

Classification

Inference

Category	Description	Task
Abstract	Official abstract of the decision, otherwise AI-generated	Extraction
Relevant Facts	A short summary of the facts of the case (who the parties are, what happened, what the dispute is about, the different stages of court proceedings, etc.). This field prioritizes information on choice of law.	Extraction/Summarization
Relevant Rules of Law	The relevant legal provisions that are related to choice of law from the choice of law issue(s)/agreement/clause/interpretation(s). This field might also include important precedents or other decisions that were used as a reference in the judgment.	Extraction
Choice of Law Issue	Questions arising from the choice of law issue(s)/agreement/clause/interpretation(s)	Classification → Interpretation
Court's Position	The opinion of the court in regard to the statements made in the "Choice of law issue" column.	Extraction/Interpretation

# Prompting Structure

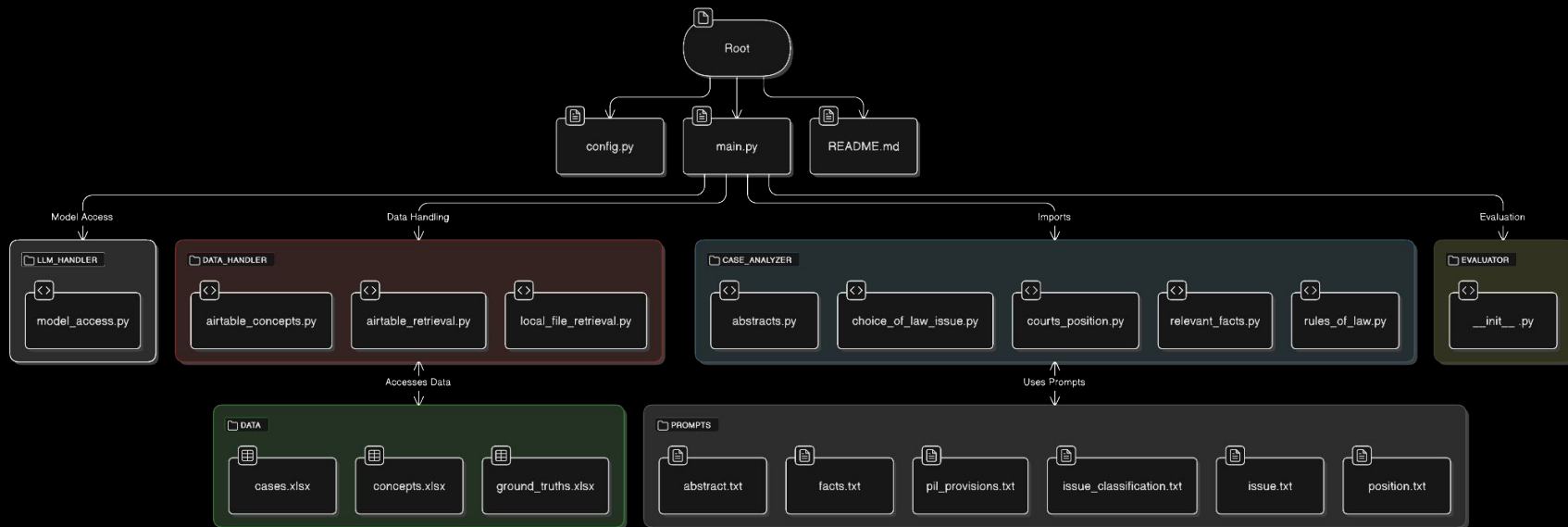
## Choice of Law Issue:

Classification + Inference functions

*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



# 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

```
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

### GPT 4o

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

### GPT 4o

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

	Title	Provisions	Theme
1st Case	BGE 130 III 620	Art. 19 PILA, <i>Art. 166 ff. PILA</i>	Mandatory rules
2nd Case	BGE 132 III 285	Art. 116 PILA, <i>Art. 129 CO</i>	Non-State law (rules of law)
3rd Case	BGE 133 III 90	Art. 117 PILA	Connecting factors

# Results: Choice of Law Issue Classification

**1st Case - BGE 130 III 620:** Mandatory rules

**2nd Case - BGE 132 III 285:** Non-State law (rules of law)

**3rd Case - BGE 133 III 90:** Connecting factors

# Results: Choice of Law Issue

## 2nd Case: BGE 132 III 285: Non-State law (rules of law)

### GPT 4o

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)?

### GPT 4o

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 response)

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



## **Results: Choice of Law Issue**

# Results: Court's Position

## 1st Case: BGE 130 III 620

### GPT 4o

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

Sometimes, the best prediction probability falls short vis-à-vis expert knowledge

**Example:** 3rd Case for "Classification" - *Connecting factors* → Absence of choice

# Challenges – irrelevant information

## 2nd Case: BGE 132 III 285: Factual Description

### GPT 4o

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 law clause stating it was governed by FIFA rules and Swiss law. The lower court interpreted this as a cumulative choice of law, giving precedence to FIFA rules as *lex specialis* over Swiss law. The court applied a FIFA regulation requiring claims to be filed within two years, dismissing the case as time-barred. X. AG argued that the FIFA regulation could not be a subject of choice of law under Art. 116 of the Swiss Private International Law Act (PILA). The Federal Supreme Court found that private association rules, like FIFA's, do not qualify as legal norms under Art. 116 PILA and can only be incorporated into contracts as material law references, subordinate to mandatory national law. The court ruled that the lower court erred in treating the FIFA rules as a choice of law and remanded the case for reconsideration based on Swiss law, which prohibits shortening the statutory limitation period under Art. 129 of the Swiss Code of Obligations.

# Humans also make mistakes



You edited this decision

6mo ago

## RELEVANT FACTS

X. AG (plaintiff), represented by a FIFA agent, concluded a contract with Y. (defendant), a Greek public limited company, for the transfer of a player represented by the plaintiff.

On February 5, 2003, the plaintiff filed a complaint with 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 appealed against this judgment before the Federal Supreme Court, which referred the case back to the lower court for a new assessment.

# Challenges – lengthy responses

## 3rd Case: BGE 133 III 90: Court's Position

### GPT 4o

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.

# Challenges

## Comparison – straight to the point

**Human (ground truth response):** 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.

**-> A direct response to the Choice of Law Issue (ground truth response):** In the absence of a choice of law agreement, should a subsequent change in the domicile of the party who must perform the characteristic obligation of the contract affect the determination of the applicable law?

# Conclusion

**Success rate:** 91.61% (consolidated peer-review assessment for 33 cases, 12 criteria, above average output: 393/429)

**Best functions:** Information extraction and classification

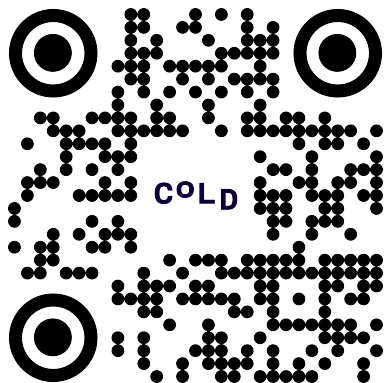
**Functions combined** → legal syllogism, ideal for case law interpretation

## Lessons:

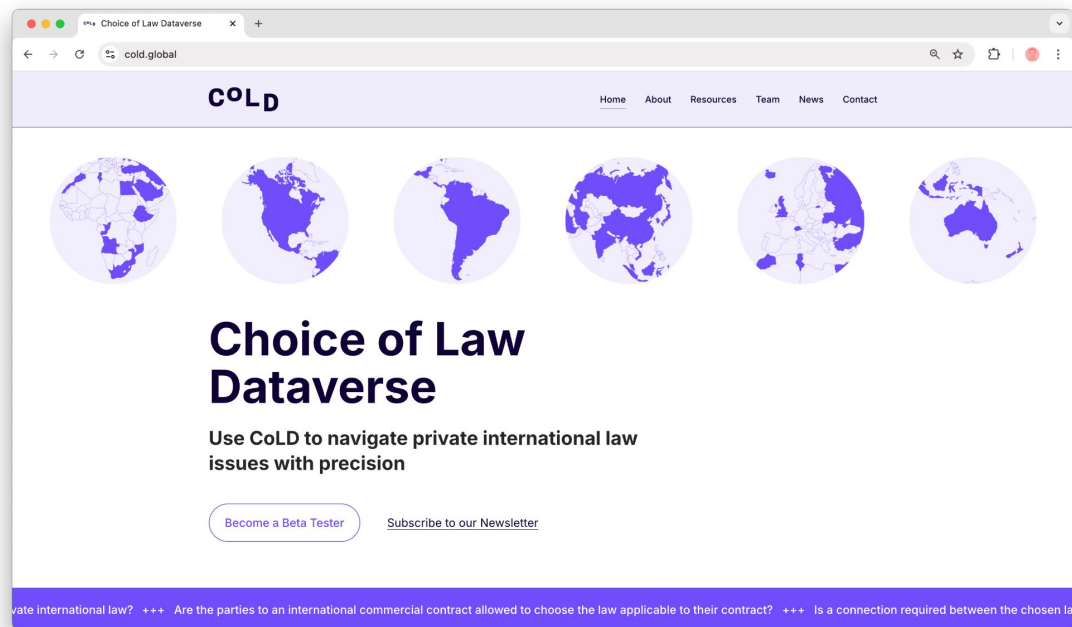
1. Be as precise as possible in your prompting;
2. If the output does not match expectations, most likely it means the instructions were not comprehensive enough (it should include "don'ts") and foresee many possibilities.
3. Go back, adapt the prompt and run new results for the whole dataset (for consistency's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



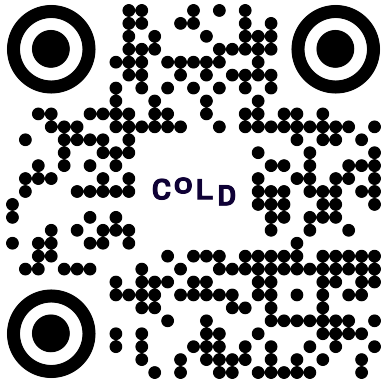
# CoLD: Choice of Law Dataverse



[www.cold.global](http://www.cold.global)



# CoLD: Choice of Law Dataverse



[www.cold.global](http://www.cold.global)

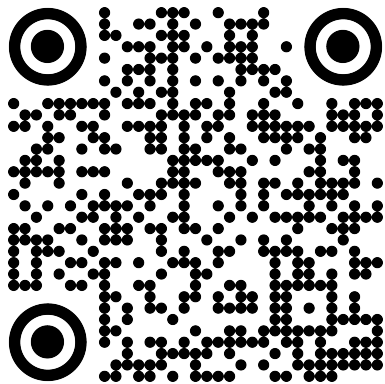


[Substack Newsletter](#)

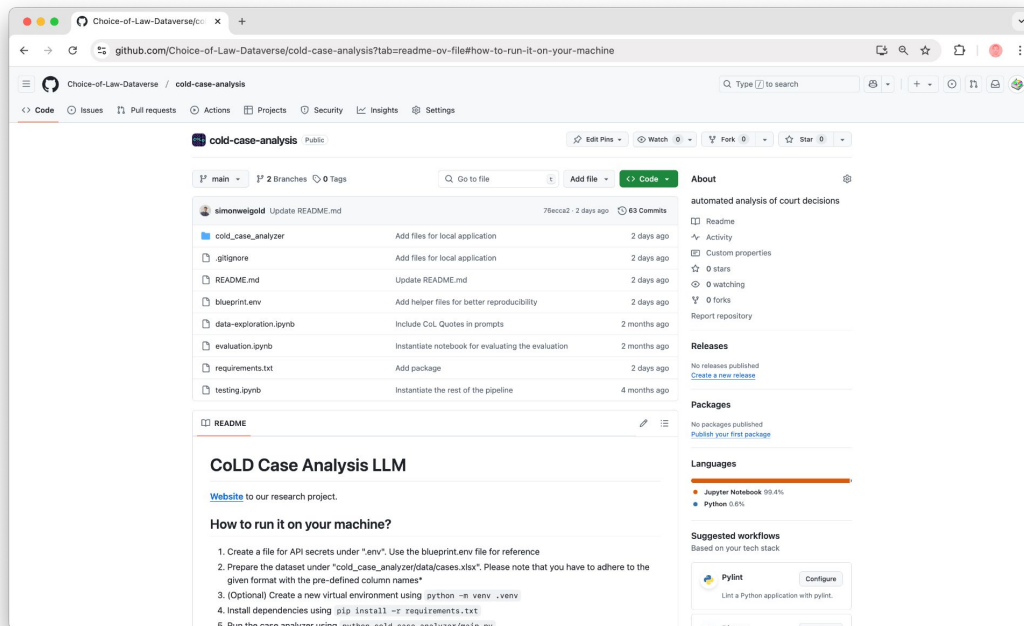


[LinkedIn](#)

# Build your own case analyzer



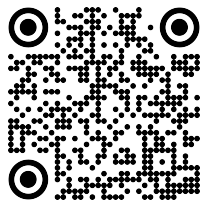
Case Analyzer on Github



# Thank you!

[agatha.brandao@unilu.ch](mailto:agatha.brandao@unilu.ch)

[simon.weigold@unilu.ch](mailto:simon.weigold@unilu.ch)



Slides and data  
available on Github

**COLD**

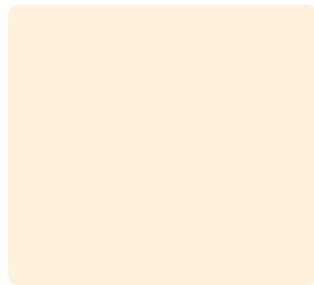


# Header 1



# COLD

## Header 2



### Header 3

Header 4

Paragraph Text