

Information Retrieval with Long Legal Documents

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What is Information Retrieval?

IV.

Analysis

A.

Whether the Immigration Officer applied the correct test in determining the best interests of the children and, if so, whether his determination was reasonable

[9]

The Applicant maintains that the correct approach to conducting an analysis of the best interests of the child is found in

REFERENCE_SUPPRESSED:

63 When assessing a child's best interests an Officer must establish

first

what is in the child's best interest,

second

the degree to which the child's interests are compromised by one potential decision over another, and then finally, in light of the foregoing assessment determine the weight that this factor should play in the ultimate balancing of positive and negative factors assessed in the application. [Emphasis original]

[10]

In

REFERENCE_SUPPRESSED, Justice Mosley observed that "the

CITATION_SUPPRESSED

formula provides a useful guideline for officers to follow where it may be helpful in assessing a child's best interests but it is not mandated by the governing authorities from the Supreme Court and the Federal Court of Appeal." Ultimately, the correct legal test is whether the Immigration officer was "alert, alive and sensitive" to the best interests of the child:

REFERENCE_SUPPRESSED.

How do you measure relevance?

$$\text{score}(D, Q) = \sum_{i=1}^n \text{IDF}(q_i) \cdot \left[\frac{f(q_i, D) \cdot (k_1 + 1)}{f(q_i, D) + k_1 \cdot \left(1 - b + b \cdot \frac{|D|}{\text{avgdl}}\right)} + \delta \right]$$

How do you measure relevance?

$$F1 = 2 \frac{Recall \times Precision}{Recall + Precision}$$

$$Precision = \frac{True\ Positive}{True\ Positive + False\ Positive}$$

$$Recall = \frac{True\ Positive}{True\ Positive + False\ Negative}$$

Datasets

dataset	COLIEE-2021 test set	FIRE-2017-IRLeD
Number of query cases	250	200
Number of documents	900	2000

Strategy 1: look at entire document

Results at top 10 documents

datasets	Canadian Legal Documents	Indian Legal Documents
Recall	0.3889	0.3290
Precision	0.1400	0.1645
F1	0.2059	0.2193

Strategy 2: Target word around the spots
where a reference was removed

Applicable standard of review

In this case, the issue raised is whether the officer erred in applying her discretion under section 25 of the IRPA, and the applicable standard is reasonableness (CITATION_SUPPRESSED, at para 30). B. Is the officer's decision reasonable? The officer did not err by finding that the applicant failed to demonstrate that he would face unusual and undeserved or disproportionate hardship in the event his application for permanent residence were filed from outside Canada. As pointed out by the respondent, the fact that an individual works in Canada, is financially self-sufficient (which is not the case for the applicant) or is forced to leave his family members and/or his job cannot be the basis for automatically concluding that a favourable decision under section 25 of the IRPA must be rendered (CITATION_SUPPRESSED, at para 27 and para 31). In this case, the applicant demonstrated that he became accustomed to living conditions in Canada, namely because of his volunteering activities and his job. However, the applicant did not submit any evidence that his return to the DRC, once the TSR is lifted, would cause him hardship that would be unusual and undeserved or disproportionate. Moreover, the applicant worked as a mechanic in the DRC for many years (1986-2006) and he, in all likelihood, has the necessary resources to readjust to life in the Congo. The officer considered all of the evidence and all of the relevant factors that she was required to consider. In my opinion, her decision was completely reasonable. It seems that the officer applied section 25 of the IRPA in accordance with paragraph 3(3)(f) of the IRPA. First, as stated by the parties, the case law has established that paragraph 3(3)(f) of the IRPA does not require an officer to "specifically refer to and analyse the international human rights instruments to which Canada is a signatory" (REFERENCE_SUPPRESSED) when the officer is conducting an examination under section 25 of the IRPA. Second, as argued by the respondent, the officer adequately addressed the substance of those instruments and of the humanitarian and compassionate values associated with the Charter and the ICCPR.

$$q = [q_1, q_2, q_3]$$

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$$q = [q_1, q_2, q_3]$$

$$\text{Score}(q, \text{documents}) = \left[\begin{array}{c|ccccc} & d_1 & d_2 & d_3 & \dots & d_n \\ \hline q_1 & v_{11} & v_{12} & v_{13} & \dots & v_{1n} \\ q_2 & v_{21} & v_{22} & v_{23} & \dots & v_{2n} \\ q_3 & v_{31} & v_{32} & v_{33} & \dots & v_{3n} \end{array} \right]$$

$$\left[\begin{array}{c|cccc} & \mathbf{d}_1 & \mathbf{d}_2 & \mathbf{d}_3 & \dots & \mathbf{d}_n \\ \mathbf{q}_1 & \mathbf{v}_{1\ 1} & \mathbf{v}_{1\ 2} & \mathbf{v}_{1\ 3} & \dots & \mathbf{v}_{1\ n} \\ \mathbf{q}_2 & \mathbf{v}_{2\ 1} & \mathbf{v}_{2\ 2} & \mathbf{v}_{2\ 3} & \dots & \mathbf{v}_{2\ n} \\ \mathbf{q}_3 & \mathbf{v}_{3\ 1} & \mathbf{v}_{3\ 2} & \mathbf{v}_{3\ 3} & \dots & \mathbf{v}_{3\ n} \end{array} \right]$$



Ranked_docs = [doc 1 , doc 2, ... , doc n]

$$v_j = \sum_i v_{ij}$$

or

$$v_j = \text{Max}(v_{ij})$$

	d_1	d_2	d_3	\dots	d_n
q_1	v_{11}	v_{12}	v_{13}	\dots	v_{1n}
q_2	v_{21}	v_{22}	v_{23}	\dots	v_{2n}
q_3	v_{31}	v_{32}	v_{33}	\dots	v_{3n}



Ranked_docs = [doc 1 , doc 2, ... , doc n]

Results

	Canadian legal documents		Indian Legal Documents	
Scoring function	Sum	Max	Sum	Max
Recall	0.4222	0.3967	0.411	0.4790
Precision	0.1520	0.1475	0.2050	0.2395
F1	0.2235	0.2102	0.2740	0.3196

Number of words per fragment: 128

Previous F1 scores:

COLIEE2021: 0.2059

FIRE-2017-IRLeD: 0.2193

New F1 scores:

COLIEE2021: 0.2235

FIRE-2017-IRLeD: 0.3196

Number of words per fragment: 128

Strategy 3: take advantage of document structure

Federal Court

Mactavish, J.

April 25, 2014.

Summary:

Ismail illegally entered Canada. He was detained under s. 55(2)(a) of the Immigration and Refugee Protection Act (IRPA), on the basis that there were reasonable grounds to believe that he was inadmissible to Canada and that he would be unlikely to appear for his admissibility hearing, given his attempt to evade examination at a port of entry. It was discovered that he was a person of interest to the FBI, and that he might be inadmissible to Canada on security grounds. The Minister of Public Safety and Emergency Preparedness sought Ismail's continued detention under s. 58(1)(c), on the basis that the Minister was taking necessary steps to inquire into a reasonable suspicion that Ismail was inadmissible on security grounds. At the detention review hearing, the Immigration Division concluded that detention could only be continued under s. 58(1)(c) in cases where the original detention was made on the same ground, and ordered that Ismail be released. The Minister applied for judicial review.

The Federal Court granted the application. Notwithstanding the deference owed to the Immigration Division's interpretation of its home statute, its interpretation of the legislation at issue was unreasonable. The Court certified the following question: "Is paragraph 58(1)(c) of the Immigration and Refugee Protection Act only available as a ground for continued detention where it follows a detention under subsection 55(3) of the IRPA?"

Aliens - Topic 2

Definitions and general principles - Legislation - Interpretation - [See first Aliens - Topic 1795].

This application was heard on May 9, 2005, at Montreal, Quebec, before Shore, J., of the Federal Court, who delivered the following decision on May 17, 2005.

INTRODUCTION

Shore, J.

: A rose by any other name is still a rose. The principles of statutory interpretation apply. By calling something by one word rather than another does not make it what one wants it to be. It is what it is, in the context of principles of statutory interpretation.

"... namely, the words of an Act are to be read in their entire context and in their grammatical and ordinary sense harmoniously with the scheme of the Act, the object of the Act, and the intention of Parliament." [see footnote 1]

"... It is a well established principle of statutory interpretation that the legislature does not intend to produce absurd consequences. According to Côté, ..., an interpretation can be considered absurd if it leads to ridiculous or frivolous consequences, if it is extremely unreasonable or inequitable, if it is illogical or incoherent, or if it is incompatible with other provisions or with the object of the legislative enactment (at pp. 378-80). Sullivan echoes these comments noting that a label of absurdity can be attached to interpretations which defeat the purpose of a statute or render some aspect of it pointless or futile." [see footnote 2]

Furthermore, practical considerations should be taken into account to ensure that statutory provisions are not interpreted in a vacuum, without considering practical realities, if such practical considerations are not precluded.

JUDICIAL PROCEDURE

[2]

This is an application for judicial review, pursuant to s. 18.1 of the Federal Courts Act

[see footnote 3] from a decision rendered July 24, 2003 on behalf of the Minister of National Revenue, whereby the Applicant's request for relief from the payment of customs duties and taxes with respect to the textile cuttings that resulted from the production in Canada of dresses made from imported fabrics was denied.

Results for Canadian legal documents

Recall	0.4187
Precision	0.1508
F1	0.2218

Number of words for each query and doc: 512

F1 score from initial strategy:

COLIEE2021: 0.2059

F1 score from second strategy:

COLIEE2021: 0.2235

New F1 score:

COLIEE2021: 0.2218

Strategy 4: Using Bert alongside BM25+

Results

datasets	Canadian Legal Documents	Indian Legal Documents
Recall	0.2078	0.1300
Precision	0.0748	0.0650
F1	0.1100	0.0867

Number of words per fragment: 128

Best F1 score achieved using BM25:

COLIEE2021: 0.2235

FIRE-2017-IRLeD: 0.3196

F1 score using Bert:

COLIEE2021: 0.1100

FIRE-2017-IRLeD: 0.0867

Comparing results to COLIEE2021 task 1
competition winners

Competition dataset

queries	Candidate documents
Same as test set: 250	Train queries + train documents + test queries + test documents: 4415

Competition Results

F1 score of winning team using Linear
Interpolation model: 0.1917

$$P(t \mid c) = \lambda P_{ml}(t \mid M_c) + (1 - \lambda) P_C(t \mid M_C)$$

My F1 score using BM25+: 0.1532

Questions?