ARC'14

مؤتمر مؤسسة قطر
السنوي للبحوث
QATAR FOUNDATION
ANNUAL RESEARCH
CONFERENCE

Towards World-class
Research and Innovation

Inconsistencies Detection In Islamic Texts Of Law Interpretations ["Fatawas"]

Jameela Al-otaibi; Samir Elloumi; Abdelaali Hassaine; Ali Mohamed Jaoua, Phd

CORRESPONDING AUTHOR :
jaoua@qu.edu.qa
Qatar University, Doha, Qatar

Abstract

Islamic web content offers a very convenient way for people to learn more about Islam religion and the correct practices. For instance, via these web sites they could ask for fatwas (Islamic advisory opinion) with more facilities and serenity. Regarding the sensitivity of the subject, large communities of researchers are working on the evaluation of these web sites according to several criteria. In particular there is a huge effort to check the consistency of the content with respect to the Islamic shariaa (or Islamic law). In this work we are proposing a semiautomatic approach for evaluating the web sites Islamic content, in terms of inconsistency detection, composed of the following steps:

(i) Domain selection and definition: It consists of identifying the most relevant named entities related to the selected domain as well as their corresponding values or keywords (NEV). At that stage, we have started building the Fatwas ontology by analyzed around 100 fatwas extracted from the online system.

(ii) Formal representation of the Islamic content: It consists of representing the content as formal context relating fatwas to NEV. Here, each named entity is split into different attributes in the database where each attribute is associated to a possible instantiation of the named entity.

(iii) Rules extraction: by applying the ConImp tools, we extract a set of implications (or rules) reflecting cause-effect relations between NEV. As an extended option aiming to provide more precise analysis, we have proposed the inclusion of negative attributes. For example for word "licit", we may associate "not licit" or "forbidden", for word "recommended" we associated "not recommended", etc. At that stage by using an extension of Galois Connection we are able to find different logical associations in a minimal way by using the same tool ConImp.

 (iv) Conceptual reasoning: the objective is to detect a possibly inconsistency between the rules and evaluate their relevance. Each rule is mapped to a binary table in a relational database model. By joining obtained tables we are able to detect inconsistencies. We may also check if a new law is not contradicting existing set of laws by mapping the law into a logical expression. By creating a new table corresponding to its negation we have been able to prove automatically its consistencies as soon as we obtain an empty join of the total set of joins.

This preliminary study showed that the logical representation of fatwas gives promising results in detecting inconsistencies within fatwa ontology. Future work includes using automatic named entity extraction and automatic transformation of law into a formatted database; we should be able to build a global system for inconsistencies detection for the domain.

QSCIENCE.com

An Initiative of Qatar Foundation

مؤسسة قطر
Qatar Foundation
إطلاق قدرات الإنسان
Unlocking human potential