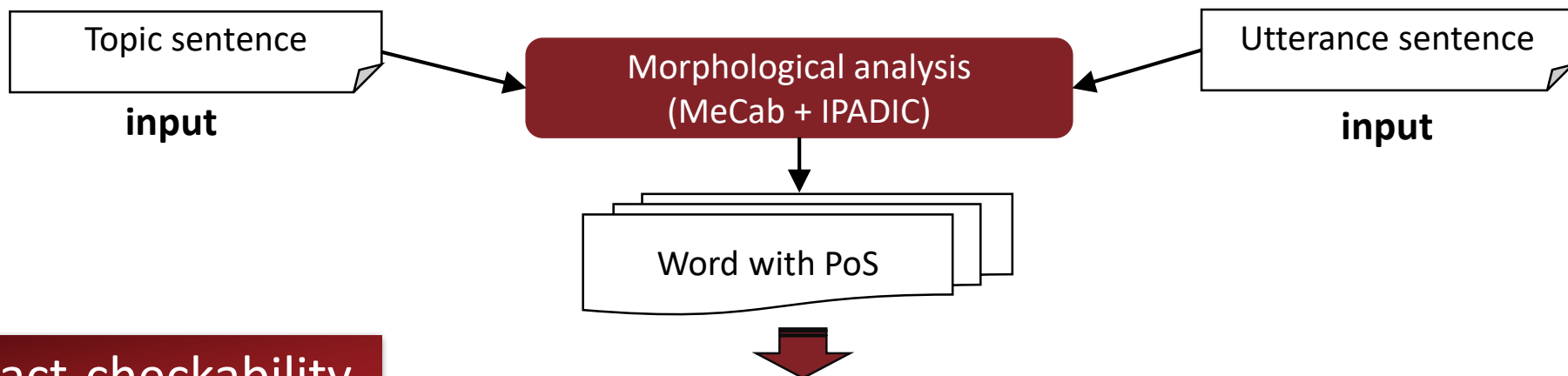# FU-02 Team's Classification of Fact-checkable Opinions in NTCIR-14 QA Lab-PoliInfo Task

Ginya Nishijima, Masahiro Shiratori, **Hokuto Ototake**, Toshifumi Tanabe and Kenji Yoshimura
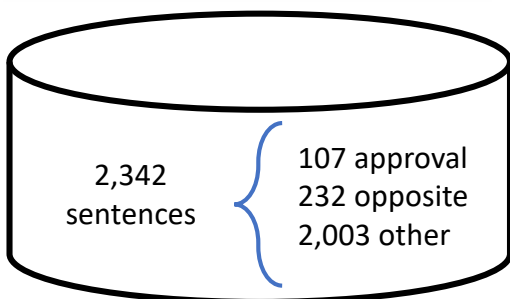
Proposed Methods

Topic sentence
input

Utterance sentence
input

Morphological analysis
(MeCab + IPADIC)

Word with PoS

Fact-checkability

Fact-checkability keywords in our dictionary:

から	より	よって	比べ	比較	が理由で
関連して	を基に	および	のに加えて	だけでなく	はもちろん
は無論	に際して	に対して	と同様に	という関係上	ではなく
の他に	の為に	を踏まえ	以外に	ので	結果
せいで	故に	と合わせて	のみならず	あげく	おかげで
の甲斐あって	のみならず				

We created a keyword dictionary by referring the Japanese Multiword Expression Lexicon (JMWEL).
Our keyword dictionary 32 words as shown in the left table that are registered in JMWEL as connection particle attribute representations and have the meaning of cause or guess.
We consider an utterance sentence as fact-checkable one if it includes at least one of the keywords in the dictionary.
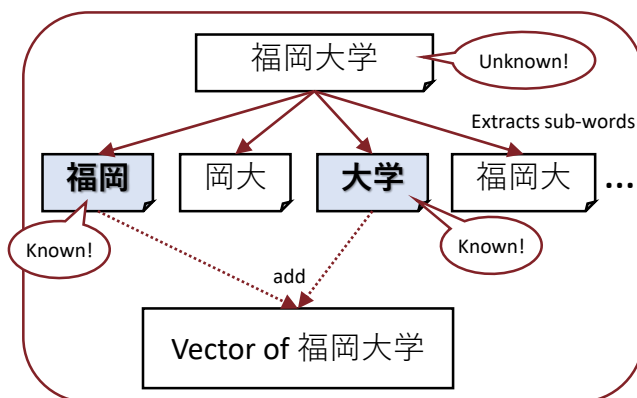
Stance

2,342 sentences

107 approval
232 opposite
2,003 other

fastText text classifier

Stance classification model

It can respond to unknown words by sub-word information.

Created our original training data from utterance sentences of Tokyo Metropolitan Assembly minutes in 2012.
We subjectively classified the sentences in the three kinds of Stance: approval, opposite or the other.

福岡大学 — Unknown!

Extracts sub-words

福岡 — Known!
岡大
大学 — Known!
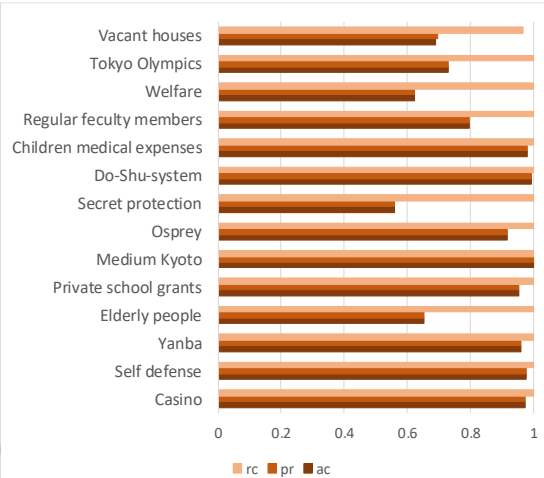福岡大 …

add

Vector of 福岡大学

Relevance

Assume the input as being relevant with the topic if its utterance includes at least one of the nouns in the topic.

Example:

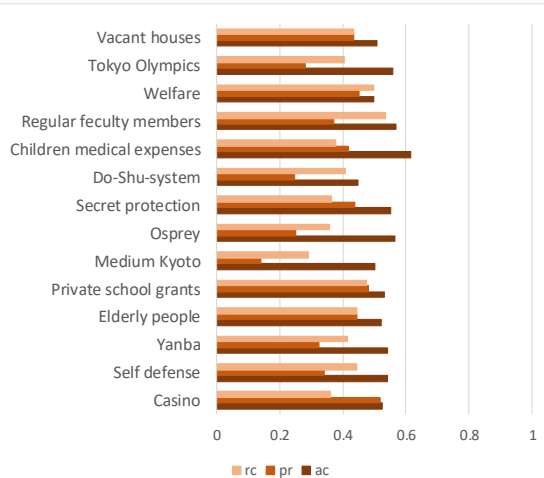**Topic: カジノ**を含む統合型リゾートを推進するべきである

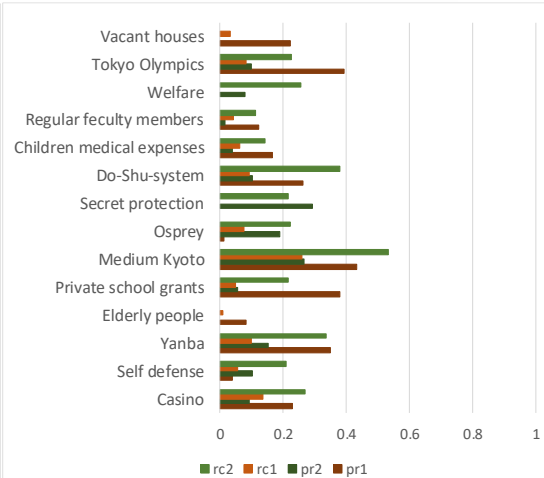・・・昨年オープンしたマリーナ・ベイ・サンズなどは、**カジノ**施設を含めたホテル、・・・

Relevance result

rc pr ac

Fact-checkability result

rc pr ac

Stance result

rc2 rc1 pr2 pr1

Our method cannot extract half of correct fact-checkable sentences. Additionally, since the accuracy is low (52:6%), our method based on the keyword dictionary seems to be inadequate.

In the Stance classification, these recall rates roughly agree with the amounts of training data.

Experiments using different training data shows that the performances of some topics get better and get worse. It will be necessary to think about handling of training data involving subjectivity from now on.