

# Multilabel Classification of Monster Card's Effect Text in the Yu-Gi-Oh! Card Game

Danit Hafiz Pamungkas<sup>1</sup>, Kemas Muslim Lhaksana<sup>2</sup>

<sup>1,2</sup>Fakultas Informatika, Universitas Telkom, Bandung

<sup>1</sup>danithp@students.telkomuniversity.ac.id, <sup>2</sup>kemasmuslim@telkomuniversity.ac.id

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**Abstract** *Yu-Gi-Oh! Trading Card Game* is a card game where the players builds a *deck*, strategize and chains one card's ability or effect with other cards. As of now there are more than 10000 different cards with different effects which could make searching for a card with a certain effect that synergizes with the wanted combo difficult. There are official application that can search for a card, including searching for it's effects. But the search engine is simple and can produce false positives. In this research, a multilabel classifier is made that can classify the classes of card effects, and also to determine the appropriate preprocess for this case of classification. The multilabel approach is done by problem transformation where the multilabel classification is broken down to 6 binary classifiers, equal to the number of labels. Then the prediction result of those classifiers are combined again to form a multilabel prediction. The classification that uses stop word removal produces the highest micro average of f1-score with 0.54. Even so, the score is low and indicates that the classifier cannot label correctly yet, and thus the classifier built cannot help players search for cards with the expected effects yet.

**Keywords:** classification, multilabel, stop word removal, stemming, yu-gi-oh

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