

Japanese Advertising Slogan Generator using Case Frame and Word Vector

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Abstract

There has been many works published for automatic sentence generation of a variety of domains. However, there would be still no single method available at present that can generate sentences for all of domains. Each domain will require a suitable generation method. We focus on automatic generation of Japanese advertisement slogans in this paper. We use our advertisement slogan database, case frame information, and word vector information. We employed our system to apply for a copy competition for human copywriters, where our advertisement slogan was left as a finalist. Our system could be regarded as the world first system that generates slogans in a practical level, as an advertising agency already employs our system in their business.

1 Introduction

There has been many works published on Japanese automatic sentence generation for a variety of domains. In literary works, generation of a short-short (short story) (Matsubara et al., 2013) (Sato et al., 2015), has become a hot topic. A wide variety of works have been published including business documents such as newspaper articles and financial summary¹, sports bulletins such as baseball inning breaking (Tagawa and Shimada, 2017), overview text of the weather forecast (Murakami et al., 2017), *haiku* (Wu et al., 2017), chat dialogue such as "high school girl AI *RINNA*." (Wu et al., 2016). However, these generation methods tend to be different for each case. For example, the short-short generation was performed with templates written manually; the inning bulletins generation was rule-based; the chat dialogue of the "high school girl AI *RINNA*" used RNN-GRU; the generation system

of overview text of weather forecast incorporates neural networks, such as an encoder-decoder model. These variety of methods mean that there are still no single method available at present that is effective and unified for all of domains.

2 Advertisement Slogan Generator

Advertisement (ad) slogan itself is not a strict concept. There are many kinds of related types of phrases: copies of the ads, book titles and bands, headings of table of contents, headlines of newspapers and magazines, copies of the movie, titles of sales letters and blogs, e-mail magazines, the saying known in the world, impressive phrases that have heard or seen in the city (Kawakami 2016). Our target is automatic generation of practical ad slogans where professional copywriters would work for, rather than automatic creation support for amateur individuals. However, our system could be used e.g. for web ads in future to provide slogans in lower costs.

There are a couple of previous works as follows. Yamane and Hagiwara proposed a method for automatic generation of Japanese ad slogans with replacement of nouns (Yamane and Hagiwara, 2015). They used n-gram and search result information from the web. Baba et al. used Word2Vec to extend the number of candidates which are automatically generated from ad texts (Baba et al., 2015). However, no work reported in practical business level works yet.

Our automatic ad slogan generator uses case frames and word vectors, with ad slogans written by professional copy writers. Our system targets on Japanese language, but we will show input and output in English using a machine translation in our demonstration.

¹ <http://pr.nikkei.com/qreports-ai/>

We applied our system to the 8th Shizuoka Copy Award², which is a competition of ad slogans for human copywriters. We submitted our generated slogans as humans, so the reviews did not know our slogans are by machine. Our submissions were manually selected from generated samples around ten times larger. Table 1 shows statistics of submissions and selections. Examples of generated slogans with selection results are shown in Table 2, also show slogans written by humans, a grand prize one and a part of finalists.

	Human	System
# of submissions	4060	228
Passed 1 st review	584 (14.3%)	16 (7.0%)
Finalist	59 (1.4%)	1 (0.4%)

Table 1: Submission and selection statistics in the 8th Shizuoka Copy Award.

Finalist written by our system	親の意見と寄付は後で効く。 (Parents' opinions and donation will work later.)
Passed 1st review by our system	その朝、いちばんご機嫌なのは経済でした。 (This morning, it was the economy that seemed the best mood.)
	仲良しがはみ出てる。(The chum is protruding.)
	可愛い子には U ターンをさせよ (Let your cute child to U-turn.)
Failed by our system	ふるさとを走ろう。(Let's run in your hometown.)
	広告が、世界をつなぐ。(The advertisement connects the world.)
	まだ見ぬお家に会いに行こう。 (Let's see a house you don't know.)
Grand Prize by human	変わらない味は、忘れない言葉で守られている。(The unchanged taste is protected by unforgettable words.)
Finalist written by humans	好きな人にキスを。好きな街にキフを。(Kiss the person you like, donate to the city you like.)
	「今」は、過去のだれかのやさしさでできている。(“Now” is made of someone's kindness in the past.)
	分ければ分けるほど増えるもの。それは、幸せ。(The more you divide, the more it increases. It is happiness.)

Table 2: Examples of ad slogans with selection results, by our system and human writers.

This system has already been used as a base of the *AICO* (AI COpywriter) system in Dentsu Inc., one of the five world largest advertising agency groups. Together with the competition results, our system could be regarded as the world first system that can generate ad slogans in the practical level.

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² <http://shizuokacc.com/award/>