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論　文　内　容　要　旨

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学位論文題目	Research on Generative Adversarial Networks for Unconditional Text Generation (無条件のテキスト生成のための敵対的生成ネットワークに関する研究)		

内容要旨

As a natural product of the development of human civilization, language and writing play an irreplaceable role in human communication. As a branch of natural language processing, natural language generation has received extensive attention since its birth. In the process of human natural language interaction, natural language generation and natural language understanding are the two most important parts. In modern human-computer interaction, natural language generation is also one of the core functional requirements of machines. Natural language generation can be broadly defined as the automated process of generating human-readable language text from given input information under specific interaction goals. Natural language generation has different inputs with different tasks. From the perspective of input information form, natural language generation can be divided into: Text-to-Text, Data-to-Text, Multimodality-to-text, Zero- to-Text. Zero-to-Text generation is also known as unconditional text generation. No input is given in the task of unconditional text generation, requiring the model to freely generate natural language text. GAN for text is a common model for unconditional text generation tasks.

Generative Adversarial Network (GAN) was proposed in 2014, and GAN generally uses in computer vision, such as image generation and other tasks.However, the GANs for text generation make slow progress. On the one hand, the guidance information passed by the discriminator to the generator is too weak. On the other hand, gradients cannot transfer properly between the generator and the discriminator, which prohibits the normal gradient based training. In response to the above issues, the key contributions in this thesis are summarized as below:

(1) Compared with the current loss function, the Wasserstein distance can provide more information to the generator. We propose an improved neural network based on RelGAN and Wasserstein loss named WRGAN. Unlike the RelGAN, we modified the discriminator networ