

Abstract

One of the common objectives of dialogue systems is to achieve human-like communication between humans and the dialogue agent. Despite the rapid development of deep learning technologies, human-machine communications are still not comparable to human-human dialogues. One particular reason underlying this gap is that human-human interaction usually involves exchanging not only explicit linguistic information but also implicit emotional states. For dialogue systems, the ability to analyze emotional states is also desirable and can strengthen communication in a positive direction. There is a growing need for dialogue systems to perceive and understand users' emotions correctly, hence making the generated responses more accurate. In fact, dialogue systems that are able to accurately recognize and convey emotions can communicate with the users at the human level. This feature can further enhance user satisfaction and lead to coherent and longer conversations. These findings motivate us in integrating emotional contexts into open-domain dialogue systems. In this dissertation, we successfully implemented a Transformer-based emotional dialog system that makes use of emotional tags to generate more emotion conveying responses. The proposed system outperforms RNN-based architecture in the same task and is evaluated through both automatic evaluation and manual inspection, the experimental results show that emotional contexts affect the behavior of the proposed dialogue system to some extent.