

A Deep Learning Powered Chatbot

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Many people nowadays use messaging applications such as Whatsapp, Facebook Messengers and are hence accustomed to the experience of communicating via a chat tool. Furthermore, for many business, much of the customer service requires an agent who communicates with the customer. Therefore, Chatbots can have wide applications in areas where interactions with humans are necessary. Traditional Chabots (such as Siri) are “rule-based” (matching input message and output response by a pre-determined set of rules) and are therefore limited by the rules. For this project, we will attempt at a Chabot architype trained by machine learning for holding dialogues. Natural dialogue generation is a key area of artificial intelligence, which many consider to be the holy grail of artificial intelligence. As of today, it is still an unsolved open problem and a hot area of research. Recent development in deep learning has encouraged new waves of attempts to design and train the Chatbots. We follow this direction of research and explores employing deep generative models (“artificial brain” of the Chabot) learn the language and held conversations with people. Specifically, we adopt the “sequence to sequence” encoder decoder architecture. By using a large dataset of movie dialogues, we train the recurrent neural network, which learns to generate responses to input messages. We demonstrate our result both quantitatively by showing the decreased cost function value during training and qualitatively by talking to our trained Chatbot.