

INTENT ANALYSIS FOR CALL CENTER RESPONSE GENERATION

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims the benefit of U.S. Provisional Patent Application No. 62/981,466, entitled “Intent Analysis For Call Center Response Generation,” filed February 25, 2020, which is hereby incorporated by reference in its entirety.

FIELD

[0002] The present disclosure relates generally to communication processing using structured frameworks to deliver favorable conversational responses. More specifically, techniques are provided to deploy a framework to assist virtual and/or human agents to provide conversational responses to customers based on the intent communicated by these customers.

SUMMARY

[0002a] According to a first aspect of the present disclosure, there is provided a computer-implemented method including: obtaining conversation data, wherein the conversation data corresponds to one or more conversations between customers and agents of a client, and wherein the one or more conversations correspond to a set of intents; identifying explicit elements and implied elements of the set of intents; determining a set of contexts from the set of intents, wherein the set of contexts are determined based on the explicit elements, the implied elements, and the one or more conversations between the customers and the agents; training a machine learning algorithm, wherein the machine learning algorithm is trained using the set of contexts, the explicit elements, the implied elements, and the one or more conversations between the customers and the agents, and wherein the machine learning algorithm is trained to generate a set of actions performable to improve agent responses to new intents; receiving new conversation data corresponding to new conversations; identifying actions performable to improve agent responses to new intents associated with the new conversations, wherein the actions are identified using the new conversation data and the machine learning algorithm; generating one or more recommendations corresponding to the actions, wherein the one or more recommendations are presented to address the new intents associated with the new conversations; and dynamically monitoring adherence to the one or more recommendations in real-time.

[0002b] According to a second aspect of the present disclosure, there is provided a system, including: one or more processors; and memory storing thereon instructions that, as a result of being executed by the one or more processors, cause the system to: obtain conversation data, wherein the conversation data corresponds to one or more conversations between customers and agents of a client, and wherein the one or more conversations correspond to a set of intents; identify explicit elements and implied elements of the set of intents; determine a set of contexts from the set of intents, wherein the set of contexts are determined based on the explicit elements, the implied elements, and the one or more conversations between the customers and the agents; train a machine learning algorithm, wherein the machine learning algorithm is trained using the set of contexts, the explicit elements, the implied elements, and the one or more conversations between the customers and the agents, and wherein the machine learning algorithm is trained to generate a set of actions performable to improve agent responses to new intents; receive new conversation data corresponding to new conversations; identify actions performable to improve agent responses to new intents associated with the new conversations, wherein the actions are identified using the new conversation data and the machine learning algorithm; generate one or more recommendations corresponding to the actions, wherein the one or more recommendations are presented to address the new intents associated with the new conversations; and dynamically monitor adherence to the one or more recommendations in real-time.

[0002c] According to a third aspect of the present disclosure, there is provided a non-transitory computer-readable storage medium, storing thereon executable instructions that, as a result of being executed by one or more processors of a computer system, cause the computer system to: obtain conversation data, wherein the conversation data corresponds to one or more conversations between customers and agents of a client, and wherein the one or more conversations correspond to a set of intents; identify explicit elements and implied elements of the set of intents; determine a set of contexts from the set of intents, wherein the set of contexts are determined based on the explicit elements, the implied elements, and the one or more conversations between the customers and the agents; train a machine learning algorithm, wherein the machine learning algorithm is trained using the set of contexts, the explicit elements, the implied elements, and the one or more conversations between the customers and the agents, and wherein the machine learning algorithm is trained to generate a set of actions performable to

improve agent responses to new intents; receive new conversation data corresponding to new conversations; identify actions performable to improve agent responses to new intents associated with the new conversations, wherein the actions are identified using the new conversation data and the machine learning algorithm; generate one or more recommendations corresponding to the actions, wherein the one or more recommendations are presented to address the new intents associated with the new conversations; and dynamically monitor adherence to the one or more recommendations in real-time.

[0003] Various embodiments of the disclosure are discussed in detail below. While specific implementations are discussed, it should be understood that this is done for illustration purposes only. A person skilled in the relevant art will recognize that other components and configurations can be used without parting from the spirit and scope of the disclosure. Thus, the following description and drawings are illustrative and are not to be construed as limiting. Numerous specific details are described to provide a thorough understanding of the disclosure. However, in certain instances, well-known or conventional details are not described in order to avoid obscuring the description. References to one or an embodiment in the present disclosure can be references to the same embodiment or any embodiment; and, such references mean at least one of the embodiments.

[0004] Reference to “one embodiment” or “an embodiment” means that a particular feature, structure, or characteristic described in connection with the embodiment is included in at least one embodiment of the disclosure. The appearances of the phrase “in one embodiment” in various places in the specification are not necessarily all referring to the same embodiment, nor are separate or alternative embodiments mutually exclusive of other embodiments. Moreover, various features are described which can be exhibited by some embodiments and not by others.