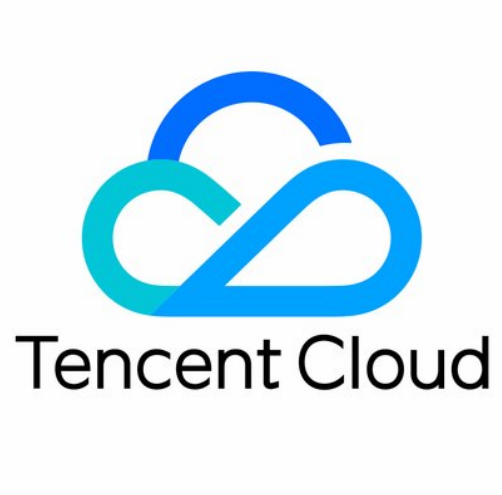
TI CSR

Intro

Product Documentation



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Overview

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Overview

TICSR is an intelligent customer service robot system developed by Tencent for enterprise users which utilizes natural language semantics understanding and deep learning algorithms. By applying the cutting-edge AI technology of Tencent Big Data AI team to customer service, TICSR assists you in all aspects of customer communications, intelligent services, service management and business decision-making, reduces human intervention, improves customer service efficiency and creates a closed loop of customer service to tap into the commercial value of customer service data.

Customer service robots can be accessed through various customer service channels such as WeChat Official Accounts, PC websites, HTML5 webpages and APIs.

Features

Knowledge Base Management

Robot knowledge base management includes a set of management functions for business knowledge base, such as adding, deleting, grouping, modifying and learning.

Natural Language Processing

Natural language processing capabilities such as text processing and semantic analysis can precisely mine the real intent of the customer out of colloquial questions and provide accurate responses.

Context Memory

The context memory function can probe into customer's short questions to understand their final intention by taking into account the context and provide accurate replies.

Human Customer Service Representative

If a robot fails to give an answer or the customer explicitly asks for human assistance, the customer service system will access human services, increasing human customer service efficiency with human-robot collaboration.

Data Analytics

Based on customer service data, TICSR provides various functions such as OPS monitoring and hot topic analysis to help discover user behavior trends in a timely manner and support decision-making for product operations.

Benefits

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Multi-round Conversation Technology Based on Knowledge Graph

In a traditional Q&A library where answers are provided based on question matching, it is difficult to solve two major issues with incomplete intent expression and too many business query conditions. The Tencent Big Data AI team has used field-specific knowledge graphs to implement business modeling in the R&D process and then implemented a multi-round conversation system based on the knowledge graphs. After the system uses natural language understanding technology to identify the customer's partial intent, it can probe into the complete intent by searching in the relationship network of the knowledge graphs. Further, the system has a context memory function.

Strong Learning Model and Cold Start Solution Based on Deep Migration Learning

TICSR's technology solution integrates a traditional machine learning model with a deep learning model where the former captures the information matching the characters, while the latter captures the semantic correlation among questions. The combination of the two can greatly improve the model stability under different data volumes.

For traditional customer service systems based on question matching, if there are too few similar questions, it is impossible to train a sufficiently stable model. To address this pain point, TICSR's deep migration learning scheme uses some large corpora in non-specific fields (not to be provided by the user) to train the basic model, and then use the user-supplied small corpus for migration learning to get the fusion model, so that even if the cold start Q&A library is imperfect, a stable model can be trained. Offline evaluation experiments have proven that when the number of similar questions is 1, the accuracy of the deep migration learning model is 40% higher than that of the traditional model, and if the number is 5, the accuracy improvement can be 100%.

Corpus Mining Scheme Based on Big Data Platform

Based on Tencent's big data warehouse, we can mine customer questions in specific field corpus (industry-related) that can be used for training deep learning models or creating user-specific Q&A libraries. This data solution is a unique advantage of the Tencent Big Data team, which helps the user build a Q&A library more effectively during the cold start phase.

Use Cases

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Automatic Replies

At present, most customer service work in various industries involves simple consultation. In contrast, TICSR can understand customer's questions, find accurate answers in the knowledge base and automatically reply to customers, saving up to 80% of the labor costs of customer service for enterprises.

Guidance on Business Processing

By identifying customers' intentions, TICSR can tell them the rules, operation methods and links for business processing, improving customer efficiency and satisfaction.

Human Customer Service Representative

The human customer service representative function is seamlessly connected with the replies provided by robots, enabling representatives to focus on complex questions and high-value customers and generating higher value out of their work.

Human Customer Service Assistance

Robots can assist representatives in improving work efficiency. For customer questions, the robots can quickly find appropriate answers in the knowledge base for filtering and confirmation by representatives, and the human-robot collaboration can provide prompt services to a greater number of customers.