Tiger Analytics

A leading US-based Fortune 100 P&C Insurer redefines customer call center operations with AI-driven insights.

Implementing Machine Learning models for call quality assessment and customer intent prediction improved call productivity and customer experience while maintaining ~90% accuracy levels despite call transcription challenges, leading to improvement in contact center KPIs.

The Background

Our client is one of the largest P&C insurance providers in the US receiving tens of millions of calls annually into their call centers. Their current system predicts a limited number of **customer call intent**. Less than 1% of the calls are reviewed manually by the QA team. The existing system faced challenges in accurately capturing and interpreting this unstructured information, resulting in gaps in reporting business KPIs and inconsistencies in customer experience.

Call intent measurement plays a pivotal role in comprehending customer needs, accurately identifying the purpose behind each call, and customizing responses accordingly. By implementing effective call intent measurement strategies, insurance companies can unlock opportunities to enhance operational efficiency, elevate customer experience, and continually evolve their services.

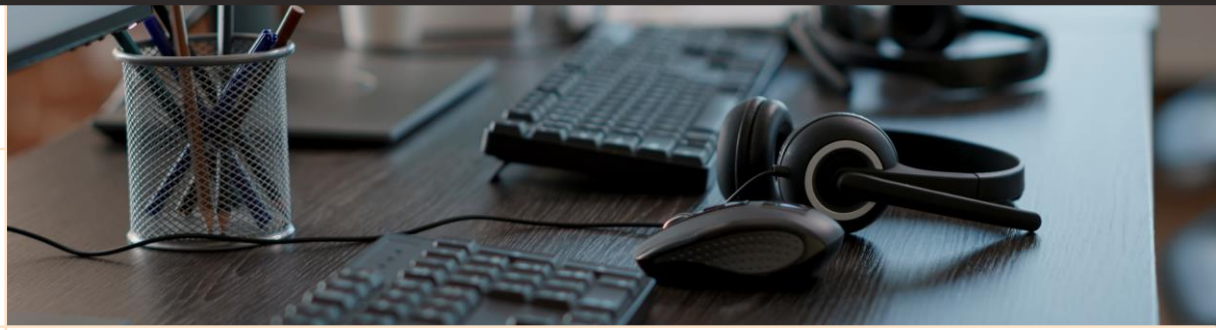
Can an **AI/ML model** help our client to understand and accurately measure key KPIs including **call intent, call sentiment, call quality** to improve customer service?

Key Challenges

\ **Challenge 1:** Call data had transcription and diarization errors, and several business KPIs had no baseline metrics available for assessment.

\ **Challenge 2:** The current system had no automated way to assess the quality of customer interactions and compliance adherence.

\ **Challenge 3:** The system lacked a 'source of truth' for accurate analytics, leading to inefficiencies in refining customer interactions and agent productivity.



Our Solution

Step 1: Use Case Identification & Prioritization: Discovery and prioritization workshops leading to the identification of 20+ relevant analytics use cases.

Step 2: Execution Roadmap Development: Creation of an execution roadmap defining crucial elements like timeline, effort estimates, data requirements, solution blueprints, and success measurement parameters.

Step 3: Implementation of Predictive ML Models: Development of ML models to predict authentication process compliance, customer intent for the call, the appropriateness of call transfer to a specialized representative, and detection of customer sentiment/emotion throughout the call.

AI/ML Modules

Context Matching Algorithms: Doc2Vec, InferSent, Universal Sentence Encoder, and SentenceBERT

Entity Recognition Algorithms: Spacy, NLTK and NER

Emotion and Sentiment: Transformers, Vadersentiment, Textblob

Predictive Algorithms: Naïve bayes, SVMs, CNNs, and RNNs

Solution Architecture

1 Input Data	2 Pre-Processing Modules	3 AI/ML Modules	4 Use Cases Supported
Call/Chat transcripts	**Pre-Processing** (removing stop words, contractions; lemmatize and filter records to keep clean data)	Context Matching Algorithms (Doc2Vec)	Call Authentication
Structured Data	Improving Diarization Quality	Entity Recognition	Sentiment
Voice Recordings	**Feature generation** (Transformation unstructured data to structured format)	Emotion and Sentiment models (Text Blob, Vader etc.)	Call Intent
Standard Operating Procedures (SOP's), FAQ's and other docs	**Sentence embedding** (Converting clean structured data into model readable vector)	Supervised Modelling	Call Transfer
		Clustering (BERTopic)	Call Compliance
		Business Rule Engine	Rep Performance

and more...

Value Delivered

Enhanced customer call center operations by leveraging AI-driven text analytics

- ~90% Accuracy levels maintained despite transcription issues
- Automated Compliance measurement which resulted in more timely compliance reporting and reduced compliance risk
- Improved call productivity and customer experience which led to enhanced CX, better customer insight and a positive impact on client revenues.

About Us

Tiger Analytics is a global leader in AI and analytics, helping Fortune 1000 companies solve their toughest challenges. We offer full-stack AI and analytics services & solutions to help businesses achieve real outcomes and value at scale. We are on a mission to push the boundaries of what AI and analytics can do to help enterprises navigate uncertainty and move forward decisively. Our purpose is to **provide certainty to shape a better tomorrow.**

Being a recipient of multiple industry awards and recognitions, we have 4000+ technologists and consultants, working from multiple cities in 5 continents.
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