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Phone Calls Speech-to-Text: A Comparison Between APIs for the Portuguese Language

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Abstract

Automation and artificial intelligence technologies are bringing improvements in efficiency and cost savings to companies in different areas. These technological developments and software use, platforms and infrastructure as a service have grown significantly in recent years, especially in the field of speech-to-text conversion. The rapid scalability and abstraction associated with the democratization of technology may be the cause of this growth. Developers often make the latest technologies and solutions available through routines and programming standards, the Application Programming Interface—API. Therefore, this paper aims to compare the effectiveness of speech-to-speech conversion tools available by cloud solution providers based on Portuguese telephone call recordings. For the development of this paper, some audio recordings and text conversion were made in order to compare the efficiency of the conversion. The test shows that Word Error Rate (WER) has a direct impact on conversion quality.

Keywords

Speech to text API Phone calls Comparative

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Phone Calls Speech-To-Text: A Comparison between APIs for Portuguese Language

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Keywords: speech to text, API, phone calls, comparative.

1 Introduction

The customer relationship sector of various companies has been seeking greater efficiency and lower cost driven by technologies, for example, use of "Platform as a Service" (*Platform as a Service - PaaS*), Infrastructure as a Service (*IaaS*) and even artificial intelligence. These technologies have changed the landscape of call centers. They are replacing people by smart systems which aggregate these technologies. More drastic cases have already been reported, such as the complete closure of a call center. It was replaced by a debt renegotiation startup that uses software and technological solutions [1]. This demand has driven the PaaS market, which has grown by almost 20% per year [2], probably due to its scalability and abstraction capability. This growth also seems to have been favored by the "democratization of technology" through the free access to these advanced technologies made available by any developer. This access is available through routines and programming standards, popularly called API (Application Programming Interface – API). According to [3] the use of PaaS, IaaS and SaaS (Software as a Service) bring some advantages such as: not going through the