JOURNEY OF MACHINE TRANSLATORS AND GOOGLE TRANSLATOR

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ABSTRACT

The work in the space of machine interpretation has been continuing for most recent couple of many years however the promising interpretation work started in the mid 1990s because of cutting edge research in Artificial Intelligence and Computational Linguistics. India is a multilingual and multicultural country with over 1.25 billion populace and 22 intrinsically perceived dialects which are written in 12 distinct contents. This requires the robotized machine interpretation framework for English to Indian dialects and among Indian dialects in order to trade the data among individuals in their nearby language. Numerous usable machine interpretation frameworks have been created and are being worked on in India and all throughout the planet. The paper centers around various methodologies utilized in the advancement of Machine Translation Systems and furthermore momentarily portrayed a portion of the Machine Translation Systems alongside their highlights, spaces and restrictions.

KEYWORDS: Machine Translation, Google Translator, Lingvanex

1. INTRODUCTION

India is a multilingual country where the communicated in language changes after each 50 miles. There are 22 authority dialects and around 2000 tongues are spoken by various networks in India. English and Hindi are utilized for true work in many provinces of India. The state governments in India transcendentally complete their authority work in their separate local language though the authority work of Union government is done in English and additionally Hindi. Every one of the authority documents and reports of Union government are distributed in English or Hindi or in both English and Hindi. Numerous papers are additionally distributed in provincial dialects. Deciphering these reports physically is exceptionally tedious and expensive. Consequently there is need to foster great machine interpretation (hereafter alluded as MT) frameworks to address every one of these issues, to set up a superior correspondence among states and Union governments and trade of data among individuals of various states with various provincial dialects.

Numerous scientists, establishments and exploration associations in India have begun dealing with MT frameworks for English to Indian dialects and among Indian dialects have prevailing with regards to acquiring extremely good outcomes. There is a monstrous need to decipher these records in separate state's neighborhood language for appropriate correspondence with commoners of the state. Over 95% of the Indian populace is denied of the advantages of Information Technology because of language boundary [16].

India has asserted a huge get-together in Hindi is the language you talk and in numerous spaces it works in a wide range of official and study. Numerous online interpreter advancements today utilize diverse machine interpretation approach. As every interpretation approaches various qualities, the consequences of the interpretation would be unique. Google Translate and Bing Translator free online machine interpreters is utilizing factual machine interpretation.
In this paper, we discuss about the various online translation systems available on internet and App Store (like Google Translate and Microsoft Bing Translator) for English to Hindi translation and its translation quality. My researches focused on survey of online translation solutions for English to Hindi translation and investigate its translation quality.

This paper is organized into 6 sections. Section 2 gives a brief history of MT system; section 3 gives an idea of the different approaches to build a MT system. Section 4 discusses major sites and apps for translations. Section 5 describes the summary report for translators. Section 6 gives the conclusion.

2. BRIEF HISTORY OF MACHINE TRANSLATORS

<table>
<thead>
<tr>
<th>Period</th>
<th>Year</th>
<th>Activity</th>
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<tr>
<td>1948 to 1960</td>
<td>1949</td>
<td>Warren Weaver proposed the first idea on the use of computers in translation by adopting the term computer translation.</td>
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<td></td>
<td>1952</td>
<td>The first symposium of MT was held at MIT under leadership of Yehoshua Bar - Hillel.</td>
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<td>1954</td>
<td>The first basic automatic Russian-English translator was developed by a group of researchers from Georgetown University in collaboration with IBM that translated more than sixty Russian sentences.</td>
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<td></td>
<td>Victor Yngve published the first journal on MT, entitled Mechanical translation devoted to the translation of languages by the aid of machines.</td>
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<td>1960 to 1966</td>
<td>1961</td>
<td>The computational linguistics was born due to weekly lectures organized by David G. Hays at the Rand Corporation in Los Angeles.</td>
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<td></td>
<td></td>
<td>First International Conference on MT of Languages and Applied Language Analysis of Teddington was held with the participation of linguists and computer scientists.</td>
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<td></td>
<td>The scientists involved in the translation work were Paul Garvin, Sydney M. Lamb, Kenneth E. Harper, Charles, Hockett, Martin Kay and Bernard Vauquois.</td>
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<td>1960 to 1966</td>
<td>1964</td>
<td>Creation of committee ALPAC (Automatic Language Processing Advisory Committee) with American government To study the perspectives and the chances of machine translation.</td>
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<td></td>
<td>1966</td>
<td>ALPAC published its famous rapport in which it concluded that its work on machine translation was just waste of time and money. Conclusion of this rapport made a negative impact on the MT research for number of years.</td>
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1. MACHINE TRANSLATION APPROACHES

Numerous MT frameworks across the globe have effectively been produced for the most ordinarily utilized regular dialects, for example, English, Russian, Japanese, Chinese, Spanish, Hindi and other Indian dialects and so forth Figure 1 portrays the current machine interpretation frameworks and different methodologies utilized in fostering these frameworks.

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
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<tbody>
<tr>
<td>1980 to 1990</td>
<td>Japanese invaders</td>
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<td>1981</td>
<td>The Japanese firm SHARP developed Automatic translatorDUET (English - Japanese), which was based on rules and transfer approach.</td>
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<tr>
<td>1983</td>
<td>NEC developed a system based on algorithm called PIVOT named as Honyaku Adaptor II, used for Interlingua approach.</td>
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<td>1986</td>
<td>OKI3 Developed a Japanese -English system PENSEE, which was rule based translator. Hitachi developed a translation Japanese - English system HICATS (Hitachi Computer Aided Translation System).</td>
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<td>1990 to 2000</td>
<td>Web &amp; new vague of translators</td>
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<td>1993</td>
<td>The project C-STAR (Consortium for Speech Translation Advanced Research) was initiated. It was trilingual (English, German &amp; Japanese) MT system for the parole in the field of tourism (dialogue client travel agent)</td>
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<td>1998</td>
<td>Marketing of machine translator REVERSO was done by Fortissimo.</td>
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<tr>
<td>2000 to 2010</td>
<td></td>
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<tr>
<td>2000</td>
<td>Japanese Laboratory ATR developed a (Japanese-English &amp; Chinese - English) system ALPH. This system used Example based approach of MT.</td>
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<tr>
<td>2005</td>
<td>The first web site for automatic translation by Google was launched</td>
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<td>2007</td>
<td>A hybrid MT METIS-II was developed that used the SMT, EBMT, and RBMT machine translation approaches.</td>
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<td>2008</td>
<td>23% of Internet users used the MT and 40% considering doing so.</td>
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<tr>
<td>2009</td>
<td>30% of the professionals have used the MT and 18% perform proofreading.</td>
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<tr>
<td>2010</td>
<td>28% of Internet users used the MT and 50% planned to do so.</td>
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</table>
4. Some popular websites and applications for English to Hindi typing

It’s said that the first significant translation in the Western World was of the Hebrew Bible in the third century. Jewish people who had forgotten Hebrew needed it to be translated into Greek, so 70 translators were commissioned to complete the project. There are so many translators available on the web like Easy Hindi Typing, Google Translate, Typing Baba, and Lingvanex. Google Translator was established in 2004, which covers more than 100 languages with 99% accuracy. Typing Baba provides various tools like Typing Test, Online Keyboard, Translators, Typing tutor for typing, and even games are available at one place. Behind this Typing Baba guarantee about accuracy and the speed of functioning.

Lingvanex was working on translations since 2012, and today they got 25 million application downloads with hundreds of thousands of users monthly. In 2016 they moved to perspective technology of neural networks to create a human alike machine translation.
There are so many translators are available on App store like Google Translate, Microsoft Translator, Translate Now, Hi Translate, Translate Hindi to English. Google Translator was established in 2004 which covers more than 100 languages with 99% of accuracy. Microsoft Translator is a multilingual machine translation cloud service provided by Microsoft. It's a part of cognitive services. This app is available for Windows, Windows phone, iPhone, and Apple Watch, and Android phone and Android Wear.

1. Survey Report

The survey is about Machine Translators and Google Translator. The main aim of this survey is to find out how many many users know about various translators. The survey was conducted on 27th May, 2021. The information was gathered through Google Form. The survey have two sections. The first section is about the introduction of and the second section is about the various questions related to translators.

There were 20 respondents and they were students and teachers of various schools and colleges.

From the survey, we know about ……

Do you know how to use Computer /Smart Phone / Laptop or Tab?
18 responses

100% users know about the use of Computers/ Smart Phone/ Laptop

Have you learnt some new applications for translation language during this pandemic period?
18 responses

38.9% users learnt some new applications for translation language during this pandemic period, 27.8% Maybe and 33.3% Not learnt new applications.
83.3% users use Language Translators for translations and 16.7% never use.

94.4% users opt for Google Translate as the most suitable website for Language Translator and few of them opt for Translate.

88.9% users opt for Google Translate App and few of them opt for Microsoft Translator.
users scale these apps/sites 4 on a scale of 0 to 5, 4 users scale it as 3, and 4 users scale it as 2.

38.9% users strongly agree with that the language translators is properly working as much as they want, 33.3% somewhat agree and 27.8% are neutral.

61.1% agreed with that the Google Translates updates end professional translations, 33.3% are not.
44.4% users are agree that Google Translator's still not enough for medical information, 38.9% are neutral, 11.1% are strongly agree.

66.7% users are publish texts that are translated by Google Translate without having a properly trained native speaker checking them, 33.35 are not.

44.4% users are agree that Google Translate needs a lot of improvement in the context of translation attempts within Indian languages, 33.3% are neutral and 22.2% are strongly agree regarding same.
83.3% users are thinking that is it still worth learning other languages if technology may soon allow for instant and accurate translations.

55.6% users are said that we are close to seamless translation technology and 44.44% are far.

38.9% users are neutral about that the learning languages become less important as technology allows us to easily translate (and speak) other languages, 22.2% are disagree, 22.2% are strongly Disagree and 16.7% are agree.
1572.2% users are agree with that a picture of a text can be translated using Google Translate and 27.8% are not.

CONCLUSIONS

- To summarize that most of the users are used Google Translators Sites and Apps for translations in any languages.
- We identified the following reasons to justify as to why most of the developed MT systems for Indian languages have followed the rule-based, hybrid and statistical approach.
- Most of the Indian and non-Indian MT systems developed so far are developed for specific domains such as tourism, health care, children stories, medical, news headlines, technical documents, government circulars and notifications etc. They have used rule based approach as it provides better performance and accuracy if the set of rules is under control.
- The Indian languages are morphologically rich in features and agglutinative in nature, hence rule-based approaches may fail in situations where full-fledged general purpose MT systems are to be developed because the number of rules would be very high.
- Support of linguistic experts is essential for developing rule-based MT systems hence many researchers are now working on statistical and hybrid approaches.

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