

A Universal Language Translator: Is This the Future or the Doom of Language Learning?

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Article Info

Keywords:

AI;
language translator;
Metaverse;
language learning.

DOI:

<https://doi.org/10.33830/humayafh.isip.v2i2.4107>

Abstract

Artificial Intelligence-based universal language translation system allows users in the Metaverse to better communicate with each other. Meta points to construct an all-inclusive dialect interpretation framework to permit clients to relate to others within the Metaverse without stressing almost dialect obstructions. Zuckerberg uncovered that Meta is working on building an AI-powered "all-inclusive discourse interpreter" for the Metaverse that will work for everybody within the advanced world. This venture points to streamline clients intelligent who speak distinctive dialects within the computerised universe with the assistance of AI. This paper will consider how virtual realities can affect and affect language learning. On the one hand, virtual realities could benefit people trying to learn second languages by providing virtual experiences that we could share with people who speak other languages. We could learn from other people, and they could learn from us, by "total immersion" in such shared experiences. On the other hand, virtual realities could remove the motivation from many people to learn second languages at all by providing nearly simultaneous. These two views will be argued further

Introduction

Within the steady advancement of humankind, dialect interpretation has continuously played a vital part, particularly in computerised communication, by permitting the sharing of information and culture between diverse languages. A bounty of riches of information and lavishness of encounters built and recorded exist in our social orders; be that as it may, they are limited inside dialect silos (Carbonell et al, 1981). A plenty wealth of knowledge and richness of experience constructed and documented exist in our societies; however, they are confined within language silos. Access is restricted for most of us, even with our favourite Internet search engines.

Machine translation (MT) is a modern translation method through computer assistance, a sub-field of computational linguistics. This academic and professional area associated with both Translation and Computer Science explores the functions of computer software that can translate texts into foreign languages to be readable and comprehensible. MT performs simple replacements with essential translated keywords for non-native speakers to understand content in an original foreign language that they need to assess (Bardzell & Shankar, 2007). Using computer translation software, such as Dr Eye, translation functions in Google toolbar or Yahoo toolbar, complex contents in foreign languages can be comprehended briefly by people who do not become familiar with the languages in the original contents. The MT software professionally and cautiously created and assisted language experts and linguists in handling linguistic differences in typology, grammatical differences, and idioms (Antonacci & Modares, 2008; Dostert, 1957)..

What is a Universal Translator? According to Wikipedia, a universal translator *"is a device common to many sciences fiction works. The translator's purpose is to offer an instant translation of any language. As a convention, it is used to remove the problem of translating between alien languages. Occasionally, alien races are portrayed as being able to extrapolate the rules of English from little speech and then immediately be fluent in it, making the translator unnecessary. While a universal translator seems unlikely, due to the apparent need for telepathy, scientists continue to work towards similar real-world technologies involving small numbers of available languages."*

This paper will consider how virtual realities can affect and affect language learning. On the one hand, *virtual* realities could benefit people trying to learn second languages by providing virtual experiences that we could share with people who speak other languages.

We could learn from other people, and they could learn from us, by "total immersion" in such shared experiences. On the other hand, virtual realities could remove the motivation from many people to learn second languages at all by providing nearly simultaneous. These two views will be argued further.

Research Method

This study's methodology, which employs content analysis, is library research. Summarizing and reporting textual data in terms of its primary content and messages is the process of content analysis. By using both pre-existing categories and emergent themes, content analysis condenses and examines them into summary form in order to develop or test a hypothesis. For the application of those categories, a theory-dependent system employs methodical, repeatable, observable, and rule-governed ways of analysis. Each Metaverse field's data was collected for this study by the researcher. Then, the researcher started from reading the entire text or the object of the research, collecting and examining the data in depth the literature review that are used as references materials. Then, the presented data statements; and then those are summarizing into the words to make them understandable.

Results and Discussion

"No Language Left Behind"

For individuals who get it dialects like English, Mandarin, or Spanish, it could appear like today's apps and web apparatuses now give the interpretation innovation we require. However, billions of individuals are being cleared out — incapable of effectively accessing most of the data on the web or interface with most of the online world in their local dialect. Today's machine interpretation (MT) frameworks are progressing quickly (Baron,2008). However, they still rely heavily on learning from large amounts of textual data, so they do not generally work well for low-resource languages, i.e., languages that lack training data and do not have a standard in their writing system (Kumar et al, 2008).

"The goal here is instantaneous speech-to-speech translation across all languages, even those that are mostly spoken; the ability to communicate with anyone in any language," Zuckerberg said during his presentation.

Meta's universal language translator plan will be executed in two parts. In the first part, Meta is developing a "No Language Left Behind" program, a translation system capable of learning every spoken language even if there is not much text available to learn from. "We are creating a single model that can translate hundreds of languages with state-of-the-art results and most language pairs, everything from Austrian to Uganda to Urdu," Zuckerberg said during the live stream (AutomaticTranslationonFacebook, 2022).

Dispensing with dialect obstructions would be significant, making it conceivable for billions of individuals to get data online in their local or favoured dialects. Progresses in MT will not fairly aid those individuals who do not talk in one of the dialects that rule the web nowadays; they will, too, on a fundamental level, alter the way individuals within the world interface and share thoughts.

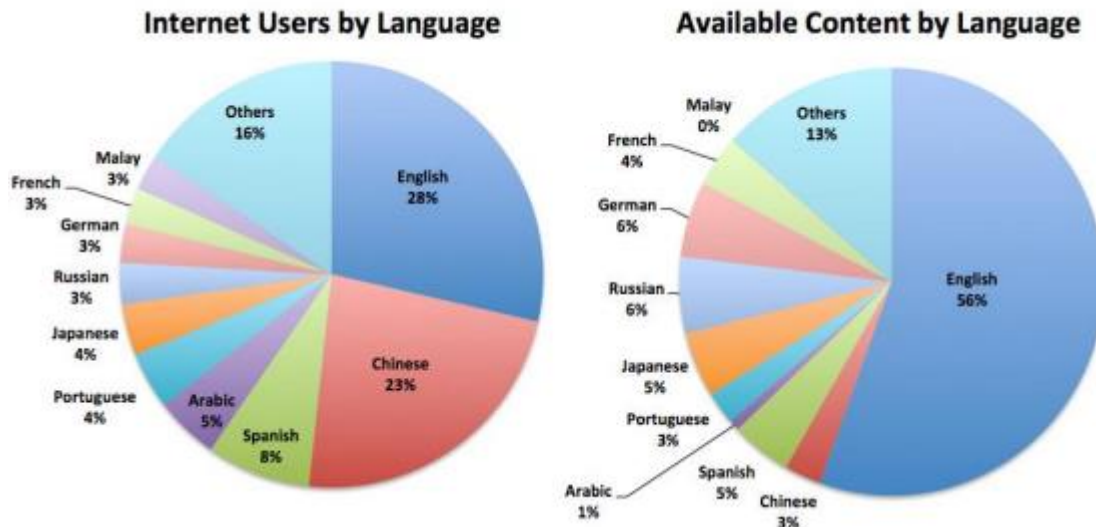


Figure 1. Internet users and available content by language based on data from Internet World Stats 2022 (World Internet Users Statistics, 2022)

Envision, for case, individuals in a commercial centre who speak diverse dialects can communicate with one another in real-time employing a phone, observation, or glasses, alternatively, multimedia substance on the internet that's open to anyone within the world in their favoured dialect (Derntl & Hummel, 2005). Within the not-too-distant future, when developing advances like virtual and increased reality bring the advanced and physical universes together within the Metaverse, interpretation devices will empower individuals to do regular exercises — facilitating a book club or collaborating on a work venture — with anybody, anyplace, fair as they would with somebody another entryway (Danielsen & Deutschmann, 2009).

Meta AI is declaring a long-term exertion to construct dialect and MT devices that will incorporate most of the world's dialects. This incorporates two modern ventures. The primary is No Language Left Behind, where we are building an unused progressed AI demonstrate that can learn from dialects with fewer examples to train from. We will utilise it to empower expert-quality interpretations in hundreds of dialects. The moment is All-inclusive Discourse Interpreter. They are arranging novel approaches to deciphering from a discourse in one tongue to another in real-time, so they are prepared to support lingos without a standard composting system and those both composed and spoken (Lik-Hang et al, 2021; Doherty, 2016).

It will take much more work to supply everybody worldwide with truly all-inclusive interpretation apparatuses. Be that as it may, we accept that the endeavours portrayed here are an essential step forward. Sharing subtle elements and open sourcing our code and models within the future implies that others can construct our work and bring us closer to accomplishing this fundamental goal.

The Challenges of Interpreting Each Language

The AI interpretation frameworks of nowadays are not planned to serve the thousands of dialects utilised around the world or to supply a real-time speech-to-speech interpretation. The MT research community must overcome three critical challenges to serve everyone. We will overcome information shortage by obtaining more prepared data in more languages and finding better approaches to use today's available information. We will, too, got to overcome the challenges as models develop to serve numerous more dialects. In addition, we will have to discover better approaches to assess and progress theirs comes about ^[23].

Information shortage remains one of the most significant obstacles to extending interpretation instruments over more dialects. MT frameworks for content interpretations ordinarily depend on learning from millions of sentences of commented on information. Since this, MT frameworks competent for high-quality interpretations have been created as they were the modest bunch of dialects that rule the internet. Growing to other dialects implies finding ways to procure and prepare cases from dialects with scanty web presences (Pelachaud et al, 2007).

To coordinate speech-to-speech interpretation, the challenge of obtaining information is indeed more severe. Most discourse MT frameworks utilise content as a mediator step, meaning discourse in one dialect is, to begin with, changed over to text, then deciphered to content within the target dialect, and at last, input into a text-to-speech framework to create sound. This makes speech-to-speech interpretations subordinate to content, restricting their effectiveness and making them troublesome to scale to fundamentally verbal dialects.

Coordinate speech-to-speech interpretation models can empower interpretations for dialects that do not have standardised composing frameworks. This speech-based approach might lead to quicker, more effective interpretation frameworks since they will not require extra steps to change over discourse to content, interpret it, and generate discourse within the target dialect (Dominguez et al. 2010b).

In addition to their need for suitable training data in thousands of languages, MT systems today are not designed to scale to meet the needs of everyone around the globe. Many MT systems are bilingual, meaning a separate model for each language pair, such as English-Russian or Japanese Spanish ^[10]. This approach is complicated to scale to dozens of language pairs, let alone all the languages in use worldwide. Envision requires forming and keeping up thousands of distinctive models for each combination, from Thai Lao to Nepali Assamese. Numerous specialists have suggested that multilingual frameworks can be supportive here. It has been challenging to join numerous dialects into a single practical, high-performance multilingual demonstration that can speak to all dialects.

Real-time speech-to-speech MT models confront numerous challenges as text-based models. However, they too ought to overcome idleness — the slack that happens when one dialect is being deciphered to another — sometimes, they can be successfully utilised to empower real-time interpretations. The biggest challenge is that a sentence can be discussed in utterly different word orders in different dialects. Indeed, proficient concurrent translators' slack behind the initial discourse by around three seconds. Consider a sentence in German, "Ich möchte alle Sprachen übersetzen," and its equivalent in Spanish, "Quisiera traducir todos los idiomas." Both mean "I would like to translate all languages." However, translating from German to English in real-time would be more challenging because the verb "translate" appears at the end of the sentence, while the word order in Spanish and English is similar.

As we scale to increasingly dialects, we must create other ways of assessing the work created by MT models. There are, as of now, assets to assess the quality of interpretations from English to Russian, but what around Amharic to Kazakh? As we extend the number of dialects our MT models can decipher, we will also get to develop new training data and estimation approaches to cover more dialects. Other than assessing the execution of MT frameworks for exactness, it is additionally fundamental to create beyond any doubt that interpretations are being made dependably. We will have to discover ways to guarantee that MT frameworks protect social sensitivities and not make or heighten inclinations.

The Benefits and Downfall of Language Learning in VR

Within the second view, Meta points to form an AI Babelfish, a widespread discourse interpreter that points to construct frameworks that straightforwardly interpret discourse in real-time from one dialect to another without an intermediary composed component.

However, information shortage is the most significant deterrent for Meta regarding interpretation devices. The current frameworks for content interpretations depend on learning from millions of sentences of explained data. Therefore, as it were, a modest bunch of dialects that overwhelm the internet are accessible for interpretation.

We will assume that virtual realities will be designed initially for adults who may speak and write in different languages. An obvious way to cope with language differences in such worlds will be to use "simultaneous" translation, whether that will involve text displayed somewhere in the visual space, a disembodied voice, or an avatar simulation of a human translator.

Unlike subtitles prepared in advance for movies, however, translations in "real-time" for virtual realities will inevitably involve time delays because of the computer processing time required to perform the translation and, even more fundamentally, because of differences in the word order languages. In some cases, the output of an accurate translation cannot even begin before most of an input utterance has been completed. We are used to such lags when we experience translation by accurate human language interpreters (Lewis, 2003;Johanis & Pendif, 2022).

However, in virtual reality, we may wish, and even be able, to present ourselves as avatars who use languages other than the ones we know. We may want our avatars to appear to speak and write in those other languages. How might that work?

The seemingly obvious way would be to speak or write in a language that we know, then have our utterance translated into the desired language. Finally, after the translation has been completed, have our avatar speak or write it. Conversing with another virtual person would introduce delays that could be misinterpreted as reluctance to reply or continue the conversation or as calculated rather than a spontaneous continuation of the conversation. Moreover, it would very likely reveal that, despite our intentions, our avatar would not be a native speaker of the language we desired, just as hesitations and delays can reveal to us in real life if we pretend to be fluent in another language, but we are not really (Suh et al, 2010).

The effect of delay when our avatars were to speak for us in another language would also influence us. Delays would be a regular reminder that our avatars were not us but only surrogates for us. That reminder might be a good thing, or it might interfere with our smooth ability to function in the virtual world by making us too self-conscious actors behind our avatars. If the avatar started to speak while we were still speaking in a monologue of several sentences, that might even interfere with our ability to continue speaking (Wolgemuth & Alberg, 2008).

How to characterise the Metaverse in advanced media? As specified prior, understudies will continuously have two restricted demeanours within modern mechanical things. Negative emotions are reflected in the failure to characterise it accurately, or it is untouchable or distinguishable, which can deliver a sense of uncertainty in learning. On the off chance that it is vital to unravel the negative effect of this uncertainty, the creators emphasise the changes in innovation in the long run concerning the definition of "metaverse". Another address understudies inquire about is whether they require a particular strategy, expertise, or channel. This wonder is additionally a conclusion that we rapidly come to in all instructing forms; it can be clarified at the hypothetical level, but at the operational level, there is no way to realise the yield productivity identical to the hypothesis. Such a circumstance is inverse to the current fast headway of the media environment (Ullrich et al, 2008). Clearly, within the confront of complex and changeable open conclusions or at the level of data channels, the classroom cannot unravel all the development issues. Subsequently, it is fundamental to caution understudies that "metaverse" and other innovative things speak to the long-term. The realisation of the end depends on their creative ability and the method of realising the creative energy (Livingstone et al, 2008). So, what will the Metaverse bring within the future? Suppose 5G network teaching can give full play to the advantages of network teaching during the epidemic as a solution. In that case, 5G network teaching realises the realism and immersion of long-distance teaching in buildings. It could encourage advancement within the existing educating environment. The question now is whether 5G organise instructing is that great. If there is a negative reply, it must be that separate

instruction is troublesome to attain compelling communication between individuals. This sense of separation will diminish the learning effectiveness and have an extreme effect on youthful people's well-being, particularly vision well-being. In this manner, it is off base to utilise VR or virtual innovation to describe the presence of the Metaverse and whether it can supplant the relationship between understudies and instructors within the classroom (Kemp & Livingstone, 2006).











































(RW)(P)(CC)(S) (D)/Perpetual (P)	 Archive.org	The under-explored cyberspace (Opportunities of entering the Metaverse)								 Rock Carving
(RW)(P)(CC)(S)/ Duality (D)										
(RW)(P)(CC)/ Social as Community (S)	 Twitter	 Instagram	 Clubhouse	 TikTok	 Animal Crossing	 Second Life	 VR Chat	 XSight	 Pokémon Go	 University
(RW)(P)/ Content Creation (CC)	 Medium	 Pixlr	 Adobe Audition	 YouTube	 Super Mario Maker	 Roblox	 Quill	 Adobe Aero	 BIM	 Soft Clay
(RW)/ Personalisation (P)	 Xanga	 Meitu	 Spotify	 Netflix	 Diablo	 Fortnite	 VR Commerce	 IKEA Place	 Google Map AR	 Shopping
Read & Write (RW)	 SMS	 Camera App	 MMS	 Zoom	 S. Mario Bros	 Simcity	 Beat Saber	 Skype	 AR Translator	 Mah Jong
	Text	Image	Audio	Video	Gaming	Virtual 3D	VR	MR	AR	Physical

Figure 2. The cyberspace landscape of real-life applications (Lik-Hang et al, 2021)

The application of innovation items must emphasise that it is still an assistant item; like an independent driving framework, it cannot supplant individuals driving a classic car. The importance of instruction itself is distant more prominent than secure driving administrations. In this manner, from the level of educating specialised shape or substance realisation, Metaverse ought to help the social relationship between understudies and instructors, sometime recently individuals, rather than realising virtual education scenes as the objective (Bardzell & Shankar,2007) (Dominguez et al, 2010a). What kind of Metaverse is required in instructing? For case, it is specified that the instructing individuals require a social life with social temperature and feeling. In case science and innovation items lose humanistic care, and as it emphasises the sense of science and innovation, it is opposite to the meaning of human presence. Thus, from this point of view, as a kind of tall innovation, it cannot deliver future developments, but at the same time, it is full of inconsistencies and clashes for human improvement. Subsequently, what kind of Metaverse is required could be an address worth examining.

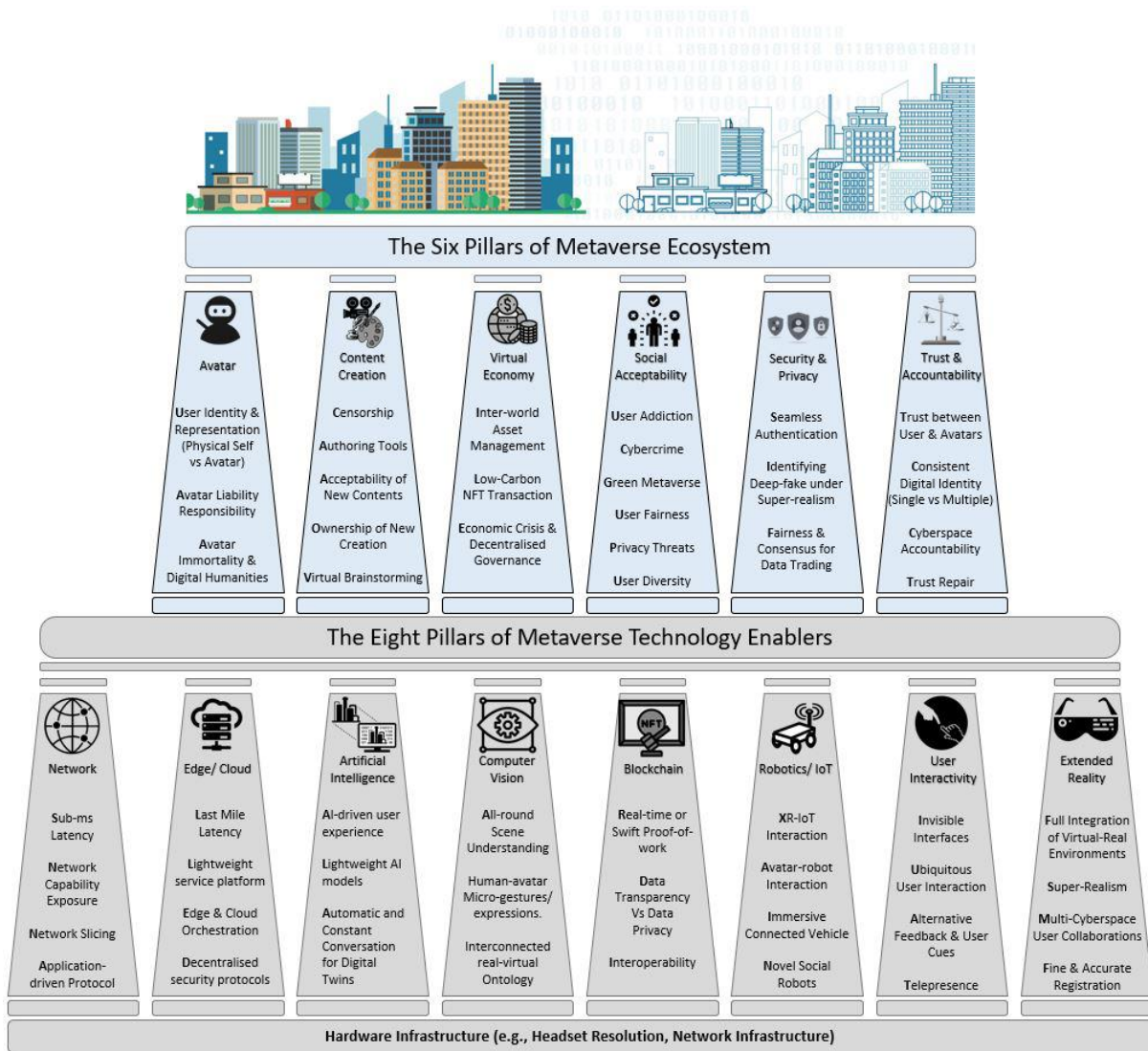


Figure 3. Future Roadmap For Metaverse Three-Stage Developments Towards The Surreality (Lik-Hang et al, 2021)

In real-life recognition, science and innovation are people-oriented, and more consideration is paid to the service of science and innovation to individuals instead of ruling or controlling (Deutschmann et al, 2009). At that point in instructing, the existence of the Metaverse ought to moreover be utilised for instructing to supply administrations for instructors and understudies. Even though it impacts individuals, we cannot lose our self-development beneath this impact. Like awful kids dependent on online recreations, the delight brought by Internet innovation has misplaced the bliss of real life. Hence, what individuals require may be a metaverse that can motivate people's hearts and selves.

The findings show that comparisons between newer technology and older procedures are still inadequate. As a result, it is difficult to claim that this new learning process outperforms the previous one in terms of performance. Although AI delivers immediate translation in language learning, it is insufficient to conclude that it would be beneficial to abandon traditional learning techniques entirely. It is only viable to advocate employing technologies to supplement second language acquisition rather than completely replace conventional methods. With the advent of e-learning and, with it, digital learning methods, it is simpler to supplement education with technology that are so widespread in our daily lives, particularly among the digital-era generation.

Conclusion

The Metaverse itself is not an innovation but a thought and concept. It must coordinate distinctive modern innovations, a social shape, and an advanced living space where the virtual space and the show world are coordinated. The rise of the Metaverse speaks to how people will alter the way of future improvement through science and innovation. It encompasses a considerable effect on instructing. We will see continued improvements in translation quality and languages covered by translation technology, leading to broader applications. Many people on the Facebook platform already expect that, with a single click, they can translate posts in languages they do not understand. Sometimes they do not even have to click, and the translation is automatically displayed. This kind of seamless integration is an example of how translation technology will be employed, invisible to the users who just use their favourite language, and everything just works. There is some exciting research of speech translation at Meta, which promises to bring this kind of seamless integration into the spoken realm.

In looking ahead, what remains vague is the parts that interpreters and ordinary clients of interpretation will play in a progressively technology-dependent globalized society. As interpretation innovations meet and now and then subsume the interpretation prepare totally, a vital figure in moving toward the viable utilize of these advances and in planning for future changes may be a basic and educated approach in understanding what such devices can and cannot do and how users ought to utilize them to attain the specified result. It is here that we demand upon the new requirements for the essential mindfulness of and available instruction for interpretation advances, their qualities and shortcomings, and their effect on worldwide and intercultural communications for all partners, counting interpreters, buyers, and venders of interpretation administrations, and, most of all, the ordinary client who is the foremost ignorant and powerless.

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