

Is AI a Threat to Human Language Translators?

Bruce D. Marron

December 18, 2024



The Answer

Perhaps, but.....

A Few Definitions

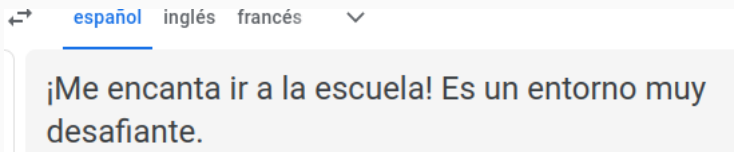
Acronyms in AI Translation

LLM	Large Language Model
NMT	Neural Machine Translation [Google]
GPT	Generative Pre-trained Transformer [OpenAI]
API	Application Programming Interface
SDK	Software Development Kit
IDE	Integrated Development Environment

Public AI Translators (free with limitations)

Google Translator - Simple Prose

I love going to school! It's such a challenging environment.



Google Translator - Poetry

"For what is it to die but to stand naked in the wind and to melt into the sun? And when the earth shall claim your limbs, then shall you truly dance." (Kahlil Gibran, artist and poet)

→ español inglés francés ▼

"¿Qué es morir sino permanecer desnudo en el viento y fundirse con el sol? Y cuando la tierra reclame tus miembros, entonces podrás bailar de verdad".

The Anthropocene is a proposed new geological epoch based on the observation that human impacts on essential planetary processes have become so profound that they have driven the Earth out of the Holocene epoch in which agriculture, sedentary communities, and eventually, socially and technologically complex human societies developed. The formalization of the Anthropocene as a new geological epoch is being considered by the stratigraphic community, but regardless of the outcome of that process, it is becoming apparent that Anthropocene conditions transgress Holocene conditions in several respects. The knowledge that human activity now rivals geological forces in influencing the trajectory of the Earth System has important implications for both Earth System science and societal decision making. [Steffen et. al. (2018) Trajectories of the Earth System in the Anthropocene, *PNAS*]

Google Translator - Science Text



español

inglés

francès

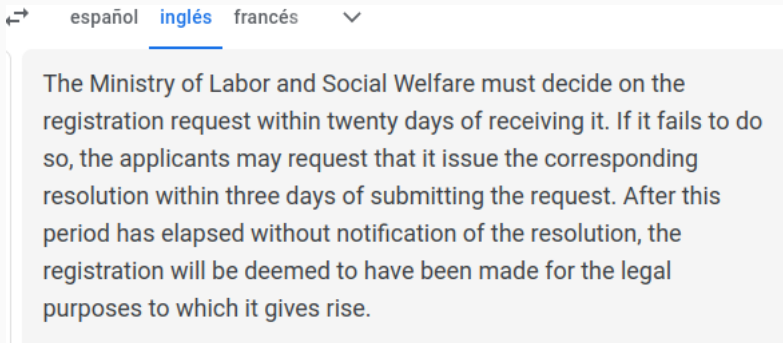


El Antropoceno es una nueva época geológica propuesta que se basa en la observación de que los impactos humanos en los procesos planetarios esenciales se han vuelto tan profundos que han hecho que la Tierra salga de la época del Holoceno, en la que se desarrollaron la agricultura, las comunidades sedentarias y, finalmente, las sociedades humanas social y tecnológicamente complejas. La comunidad estratigráfica está considerando la formalización del Antropoceno como una nueva época geológica, pero independientemente del resultado de ese proceso, se está volviendo evidente que las condiciones del Antropoceno transgreden las condiciones del Holoceno en varios aspectos. El conocimiento de que la actividad humana ahora rivaliza con las fuerzas geológicas en la influencia de la trayectoria del Sistema Tierra tiene implicaciones importantes tanto para la ciencia del Sistema Tierra como para la toma de decisiones sociales.



La Secretaría del Trabajo y Previsión Social deberá pronunciarse respecto de la solicitud de registro dentro de los veinte días posteriores a la recepción de la misma, de no hacerlo, los solicitantes podrán requerirla para que dicte la resolución correspondiente, dentro de los tres días siguientes a la presentación del requerimiento. Transcurrido dicho plazo sin que se notifique la resolución, se tendrá por efectuado el registro para los efectos legales a que dé lugar. [Artículo 15. LEY FEDERAL DEL TRABAJO, publicada 30-09-2024]

Google Translator - Legal Text



The Ministry of Labor and Social Welfare (MLSW) must approve or reject the registration request within twenty days after its receipt in the offices of the MLSW. If the MLSW fails to do so, the applicants may formally require that the MLSW resolve the issue within three business days. If, after this second period has elapsed without notification of the status of the registration request, the registration request will be deemed approved for all applicable legal purposes. [Marron translation]

ChatGPT - Legal Text

ChatGPT ▾

⬆️ Share

Translate the following text from Spanish to English as a professional translator

< 2/2 >



Please provide the text you'd like me to translate, and I'll deliver a professional-quality translation for you!



The Ministry of Labor and Social Welfare must issue a decision regarding the registration request within twenty days of receiving it. If it fails to do so, the applicants may formally request that the corresponding resolution be issued within three days following the submission of such a request. If this period elapses without notification of the resolution, the registration will be considered completed for all applicable legal purposes.

Registered User AI Translators (pay per limit)

A type of foundational LLM that can generate content in over 90 languages. Multiple types of rate limits apply!

“We’re running GPT4 translations on english, german, french, spanish, italian, portugese, on a daily basis, and I can assure you it’s the best available option hands down.”

“...the talk of the town with its very impressive language translation technology that’s taking multilingual communication by storm. GPT-4 has the remarkable ability to analyze the context and meaning of words and sentences, which makes it able to make more accurate translations”

“...it generates text 2x faster and is 50% cheaper. Additionally, GPT-4o has the best vision and performance across non-English languages of any of our models. **GPT-4o is available in the OpenAI API to paying customers.**”

Once you have applied for access, you must be reviewed and approved...

Once your application has been approved, you will receive an API key ...

Once you have gained access to the API, you will need to install the necessary SDK (using an IDE)

Once you have configured GPT-4 for your project, you need to initialize GPT-4 for translation....

And now you will be ready to start using the model for language translation.

Yikes!

The Science

GPT-4 vs. Human Translators: A Comprehensive Evaluation of Translation Quality Across Languages, Domains, and Expertise Levels

Jianhao Yan^{1,2*} Pingchuan Yan^{3*} Yulong Chen^{4*}

Judy Li⁵ Xianchao Zhu⁵ Yue Zhang^{2,6,✉}

¹ Zhejiang University ² School of Engineering, Westlake University

³ University College London ⁴ University of Cambridge ⁵ Lan-Bridge Group

⁶ Institute of Advanced Technology, Westlake Institute for Advanced Study

To our knowledge, **this study is the first to evaluate LLMs against human translators** and analyze the systematic differences between their outputs, providing valuable insights into the current state of LLM-based translation and its potential limitations.

GPT-4 vs. Human Translators: A Comprehensive Evaluation of Translation Quality Across Languages, Domains, and Expertise Levels

ABSTRACT This study comprehensively evaluates the translation quality of Large Language Models (LLMs), specifically GPT-4, against human translators of varying expertise levels across multiple language pairs and domains... we find that **GPT-4 performs comparably to junior translators in terms of total errors made but lags behind medium and senior translators....**[we] find that **GPT-4 translator suffers from literal translations, but human translators sometimes overthink the background information.**

GPT-4 vs. Human Translators: A Comprehensive Evaluation of Translation Quality Across Languages, Domains, and Expertise Levels

CONCLUSION ... GPT-4 has made significant strides in approaching human-level translation quality...This suggests promising opportunities for collaboration and enhancement of translation workflows...we anticipate that **LLMs will become increasingly valuable tools in the translation industry, working alongside human translators to improve productivity, efficiency, and overall translation quality.**

The Answer (revisited)

Is AI a Threat to Human Language Translators?

Perhaps, but unlikely. What is likely is that professional translators will increasingly be required to interface with LLMs. This means adding machine languages, IDEs, and SDKs to your tool kit.

Recommendations

The 21st C. Professional Translator

Learn Python OpenAI's SDK is in Python and the world's Python resources are huge! Spyder is a solid IDE.



Apply to OpenAI You'll need their API Key and Python SDK.

Collect Python Translation Prompts Code!

Collect English Translation Prompts Use ChatGPT!

The Future

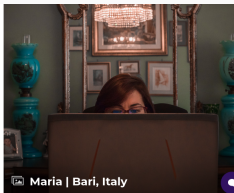


SMARTLING

Software Services Plans

AI-powered translations with a human touch

Smartling's LanguageAI™ platform provides the highest quality translations, faster, and at 70% lower



Thank you!
