A. What is it?

This tool provides users with the new technology to translate Chinese patent texts using Neural Machine Translation (NMT).

This tool is designed to give users the possibility to understand the content of a text and provide alternative translations for each segment of the text.

For example, you can enter the following sentence in the interface:

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中国发明人发明了一种焊嘴热保护焊枪，该焊嘴热保护焊枪侧边装配有焊嘴热保护装置。焊嘴热保护装置装有焊嘴热保护装置的焊嘴热保护焊枪，可提高焊嘴热保护焊枪的使用性能，延长焊嘴热保护焊枪的使用寿命。
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Using the interface, you can translate this sentence into another language and see different alternatives for each segment. For instance:

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Chinese inventors have invented a welding gun with heat protection, which is equipped with a heat protection device on one side. This heat protection device can improve the performance of the welding gun and extend its lifespan.
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This tool is a prototype developed by WIPO using neural machine translation to translate patent texts.
The source text and the translation will be displayed:

Source text:  

The present invention discloses a mobile communication network access authentication method, including mobile communication network identity location register of the user terminal access authentication process. The present invention also discloses a corresponding system, the system includes an user terminal, access server and the identity of the location register. The present invention also discloses a corresponding apparatus. The invention effectively avoids the unreliable network via the in-the-middle attacks, through the access point routing information and the authentication result from the binding, to ensure that the access point is the real user of the access point.

Translation:  

This automatic translation is provided for information only, it may contain discrepancies or mistakes and does not have any juridical value.

- Please hover your mouse over parallel segments of text
- Click to view other proposals
- Select words or phrases on the right to access other translation proposals

Hovering the mouse on the left highlights corresponding segment on the right (and vice-versa)
By clicking on a segment other proposals will be displayed. Selecting one of them will automatically change the output text.

Note that, when the text is long, parallel segments are highlighted in red, which helps identify which part of the source text is translated.

Clicking on the source or target text, allows the user to enter his own translation of the segment:
When the user wants more proposals for a particular phrase, he can select the source phrase, the phrase will be segmented from the rest of the sentence and more proposals will be displayed.

E.g. if the user wants to look for more proposals for “torque pin”, he first selects the phrase, waits a second and gets the following display:

This functionality can also be used to further segment long sentences. In the example, the last sentence is too long for the tool to display good proposals, therefore we can select a phrase in the middle of the sentence to further split the sentence (e.g. by selecting “for transmitting torque”):
When the translation is finished, do not try to copy and paste it from the right box straight away, you first have to click on “Edit translation”. You will then be able to further edit the translation before copying it.

**B. How to use it?**

When you first enter a text, without further input and click on “translate” the tool will try to guess the language pair from the text (note that it is not always accurate!) and try to guess the domain it belongs to.

**C. How does it work?**

The tool has been trained using a corpus of patent texts translated by humans. It has also been trained on aligned descriptions and claims. It is based on machine learning method (neural machine translation), which means it tries to reproduce phrase translations it has already seen during the training.

Therefore, the tool is specific to patent texts. It will not be accurate when translating any other kind of text (news, legal texts, conversations, etc.). The typical example is “I am”, which has never been seen in training data, therefore will be badly translated in any languages.

Why is Neural Machine Translation different?

Essentially Neural Machine Translation provides better translation from “distant” languages (like Chinese and English) since it handles word re-ordering better, as shown in the figure below.

![Why is NMT different?](image)

NMT is also well-known to produce more fluent translations which are generally much better-received by human users of MT.
D. Remarks

Robots: You may be asked to enter a “captcha” (enter a text displayed on an image) to ensure that any user or program (robot) is not overloading the system. Do not use the tool with any automatic program to translate batch of texts, it will overload the system. An anti-robot system has been set up and any abuse will end-up in a black list.

E. Disclaimer

Be careful when using the tool: it should be used for information only. It may contain discrepancies or mistakes and does not have any legal value.

F. Bibliography

Note that our Neural Machine Translation is new and has not yet been described in scientific publications. The following publications are describing the previous “phrase-based machine translation” method:

https://www.researchgate.net/publication/263099943_SMT_of_German_Patents_at_WIPO_Decompounding_and_Verb_Structure_Pre-reordering

Tapta4UN (the same tool tailored for United Nations) has been described in the following publications:

The same software has been installed in other UN agencies (ITU, IMO, FAO etc.):
