![SYSTRAN]

SYSTRAN announces the launch of its "Purely Neural MT" engine, a revolution for the machine translation market

The first engine to be based on neural models and deep learning, delivering unparalleled translation quality!

Paris, France, August 30th 2016 - Project "PNMT" (Purely Neural Machine Translation) was this year's flagship project for the researchers and developers at SYSTRAN, the leading provider in machine translation and natural language processing, confirming its pioneer position for over 40 years.

SYSTRAN brings its expertise to the sector in several ways: contributing to research on neural models; applying its know-how in terminology to increase the potential of Neural Machine Translation; and industrializing technology to make it available to companies, organizations and individuals.

Neural Machine Translation: let's go back to the origins

Each of us have experienced or heard of deep learning and artificial neural networks. Google, Microsoft and Facebook have already deployed powerful solutions based on these new models such as image recognition, big data analysis, digital assistants...

In the last two years, a lot of research has been conducted on artificial neural networks as applied to natural language processing. Results are shared among an open source community in which SYSTRAN actively participates and shares its know-how.

What constitutes a technological breakthrough in the world of machine translation?

Unlike statistical (SMT) or ruled-based (RMT) engines, NMT engines process the entire sentence, paragraph or document. The entire chain is processed end-to-end with no intermediate stages between the source sentence and the target. The NMT engine models the whole process of machine translation through a unique artificial neural network.

However, similar to the human brain, some complementary neural subnetworks activate themselves within this unique neural network as the translation is being generated:

- a first subnetwork addresses the source sentence to extract its meaning,
- a second specialized in syntactic (grammar) or semantics (words meaning) analysis enriches understanding,
- a third contextualizes the content,
- another focuses on keywords…

All these subnetworks communicate with the engine and allow it to ultimately choose the best translation with a quality overachieving the current state of the art!

What makes SYSTRAN's offering unique?

Unlike in previous generations of engines where a huge volume of data was mandatory, the neural network feeds itself on enriched data. The quality and the wealth of these data largely count on their quantity. The expertise that SYSTRAN has been acquiring for over 40 years, has made it possible today to provide artificial neural networks with data enriched by terminology and annotated resources.

Artificial neural networks have a terrific potential but they also have limitations, particularly to understand rare words. SYSTRAN mitigates this weakness by combining artificial neural network and its current terminology technology that will feed the machine and improve its ability to translate.

SYSTRAN exploits the capacity NMT engines have to learn from qualitative data by allowing translation models to be enriched each time the user submits a correction. SYSTRAN has always sought to provide solutions adjusted to the terminology and business of its customers by training its engines on customer data. Today SYSTRAN offers a self-specialized engine, which is continuously learning on the data provided.

The adventure has only just begun…

The technology is ready and the results are amazing. A demonstrator will be online during October. The next step for SYSTRAN is to deliver this breakthrough technology to its customers. Several of them have already been participating in a beta test program to give back feedback in real situations. Customers can expect a smooth and transparent change. The noticeable change is the quality of the output translations, and what a change!

About SYSTRAN

To help organizations enhance multilingual communication and increase productivity, SYSTRAN delivers real-time language solutions for internal collaboration, search, eDiscovery, content management, online customer support and e-Commerce.

With the ability to facilitate communication in 140+ language combinations, SYSTRAN is the leading choice of global companies, Defense and Security organizations, and Language Service Providers. SYSTRAN has also been the technological choice of Samsung for its embedded translation application, S-Translator, available on the Galaxy S and Note series, and of Sonico for the latest version of its mobile application, iTranslate.

Since its early beginnings, SYSTRAN has been pioneering advances in Machine Translation and Natural Language Processing and delivers today a new generation of engines leveraging the last technological innovations from Artificial Neural Networks and Deep Learning models.

For more information, visit www.systrangroup.com

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