

IPR related Machine Translation Quality Evaluation and Quality Assurance in the Generative-AI Age

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Abstract

In recent years, patents originating from China or of interest in China have seen rapid growth along with bilingual patent processing. As part of AI, Machine Translation (MT) is also evolving rapidly. It is now used for many translation tasks, including patent translation, which, like other high value documents, requires human post-editing to ensure top final quality. With the arrival of Generative-AI, *fluency* of MT output has significantly improved. However, *fidelity* or *accuracy* in translation remains a problem, especially with scientific and technological terminology, and between Chinese and English. Thus, an important problem is to help the post-editor to evaluate and improve MT quality, especially accuracy. In this presentation, we compare the accuracy of MT results between a top MT supplier and ChatGPT, based on expert human evaluation and several objective scores, including one based on terminological usage among a specially cultivated corpus of 300,000 comparable bilingual Chinese-English patents. We report how the best results are from a combination of Human Evaluation and the objective terminological base, and show how the productivity of C to E and E to C patent translation may be expeditiously enhanced.

Bio-notes

Benjamin TSOU has worked on computational linguistics, including Natural Language Processing (NLP) and Machine Translation (MT) for more than 40 years. He led two projects under the HK Judiciary to produce bilingual court judgements after 1997 and subsequently worked on bilingual patent processing. His group was a main contributor to the international Chinese-English patent MT competition in Tokyo (2009). His current work, supported by HK's ITC, focuses on AI and MT Post-Editing and draws on a massive database of 300,000 bilingual patents cultivated since 2007. He is the Founder of Chilin (HK) Ltd, Emeritus Professor of the City University of Hong Kong and the founding President of the Asian Federation of Natural Language Processing. Dr. Tsou is a graduate of Harvard University and UC Berkeley, and among his many publications is the *Common Latin Terms in Hong Kong Legal Language* 《香港法律語言常見拉丁辭彙》 (Hong Kong City University Press, 2021).