The past and future of Fairslator

Michal Měchura
Centre for Translation Studies, University of Vienna
michal.mechura@univie.ac.at

Abstract

Fairslator is a web-based tool for detecting and correcting bias in machine translation. Started in 2022 as a personal project, Fairslator has recently (2026) received backing from University of Vienna where it is going to be redeveloped into an open-source, community-contributed tool for rewriting and computer-assisted postediting of machine translation. This contribution introduces the plan for that redevelopment.

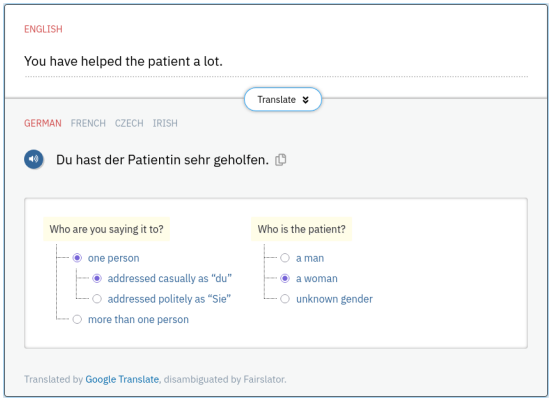

Figure 1: Fairslator's user interface

1 Introduction

Fairslator[1] (Měchura, 2022) is a plug-in for any machine translation system which detects ambiguities in the source text and invites the user to disambiguate them manually through a user interface shown in Figure 1. Based on the user's choices Fairslator rewrites the translation into a different gender or form of address. Fairslator currently works in four directed language pairs from English into German, French, Czech and Irish.

Following Fairslator's recent redefinition as a project supported by University of Vienna, Fairslator is about to be rewritten as an open-source tool for detecting and rewriting biased translations, in potentially any language pair. The goal is to build a tool capable of handling – with reliable accuracy – all situations when the machine translator has made an arbitrary, unjustified decision about the semantic or pragmatic properties of (mainly human) referents, including but not limited to gender.

A secondary goal is to automate repetitive postediting tasks. In most machine translation postediting environments today, once the user has decided to change something (such as the gender of some human referent), they need to make the edit manually. Fairlator's pregenerated rewrites, which the user will be able to accept or reject with a single click, will remove the mundane manual work while still leaving the human in control of all decisions.

2 Software architecture

The current version of Fairslator is only a proof of concept: it is the result of years of experimentation, is built on technologies not completely suitable for the purpose (C#, XML) and is ridden with technical dept. It has been decided that Fairslator needs to be rewritten from scratch if it is to become genuinely useful and long-term maintainable. The new version will be written in Python and the spaCy[2] NLP library. Some functionality will optionally be outsourcable to a Large Language Model or to another NLP library called Grammatical Framework[3].

[1] https://www.fairslator.com/

[2] https://spacy.io/

[3] https://www.grammaticalframework.org/

Fairslator will take the output of any machine translator (the source-translation pair) as its input and process it along a pipeline with three steps: **1. Preparation:** parsing the source text and the translation, recognising named entities, resolving coreferences, bilingual alignment. **2. Detection:** matching the source-translation pair against a catalogue of patterns which are known to betray biased translations, and subsequently generating human-readable disambiguation questions and suggested rewrites. **3. Rewriting:** altering the translation in accordance with the user's choices.

Fairslator will be an open-source software library and will be deliberately designed in such a way that others can contribute modules for specific languages and language pairs.

3 Related work

Machine translation vendors including Google[4], Microsoft[5], DeepL[6], Amazon[7] and Apple (Garg et al., 2024) have in recent years introduced features for rewriting translations into different genders and forms of address. In addition to those, various language-specific rewriters are being developed in academia for eg. Arabic (Alhafni et al., 2022), Hebrew (Moryossef et al., 2019) and Greek[8]. Last but not least, several vendors of Translation Management Systems (TMS) such as XTM[9], Intento[10] and TextUnited[11] have been unveiling features in their products with names such as "intelligent postediting" and "automatic postediting" which aim to automate repetitive postediting tasks.

All of these initiatives overlap with the Fairslator project, but Fairslator is not necessarily a competitor to any of them. Unlike other projects which are either closed-source or language-specific, Fairslator will be an open-source, language-agnostic platform where researchers can experiment with different approaches and test the limits of what is technically possible.

4 Conclusion

The plan for Fairslator's redevelopment presented here is a general guide to how the Fairslator project is likely to develop in the future. Faislator's long-term mission is to make postediting less boring for professional posteditors, and less arbitrarily biased for all.

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