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To Palgrave Communications Office
SpringerNature
London, UK

Re New submission to Palgrave Communications

Dear Editors of Palgrave Communications:

We hereby submit the manuscript titled *Assessing Gender Bias in Machine Translation – A Case Study with Google Translate*, by Marcelo Prates and Luis C. Lamb to *Scientific Reports*.

In a nutshell, considering the recent and growing concerns in both industrial research labs, academia and mainstream media on the impact of Artificial Intelligence in society, the analysis of machine bias is relevant to a large number of AI systems and applications. Although a systematic study of such biases is indeed difficult, we believe that automated translation tools can be exploited through gender neutral languages to yield a window into the phenomenon of gender bias in AI. In our paper we investigate gender bias in machine translation. Specifically, we present several case studies and experiments with the Google Translate API. We collect statistics about the frequency of male defaults and evaluate which factors can influence the gender Google Translate API computes for each sentence.

We show that not only there is a tendency towards translating pronouns to masculine, but also that this tendency is exaggerated for sentences about male dominated fields such as Computer Science. On the other hand, sentences about artistic fields are less likely to yield male defaults. This contributes to investigate how our society sees stereotypical gender roles, and suggests points to the improvement of statistical machine translation systems.

Suggested names of Referees:
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Data disclosure: All data used in this research will be freely available.
M.P. and L.C.L. created the models and analyzed the results. M.P. wrote the code of the experiments. M.P. and L.C.L. wrote the manuscript. All authors gave final approval for submission.

We look forward to hearing from you.

Yours sincerely,

Marcelo Prates, Pedro HC. Avelar and Luis C. Lamb

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