

Proposals for master theses

Academic year 2019-20

Antonio Toral

<https://antoniotor.al>

a.toral.ruiz@rug.nl

November 29, 2019



rijksuniversiteit
groningen

1. Human Parity in MT
2. Literary MT EN→NL

Human Parity in MT

Human Parity in MT

Claims that MT is as good as human translators (HT). I.e. bilingual speakers do not perceive HT significantly better than MT.

Claims that MT is as good as human translators (HT). I.e. bilingual speakers do not perceive HT significantly better than MT.

- 2018: ZH→EN, EN→CS (Hassan et al., 2018; Läubli et al., 2018; Toral et al., 2018)
- 2019: EN→{DE,RU}, DE→EN (Barrault et al., 2019)

Claims that MT is as good as human translators (HT). I.e. bilingual speakers do not perceive HT significantly better than MT.

- 2018: ZH→EN, EN→CS (Hassan et al., 2018; Läubli et al., 2018; Toral et al., 2018)
- 2019: EN→{DE,RU}, DE→EN (Barrault et al., 2019)

Humans cannot (to some extent) discriminate between HT and top MT systems

Claims that MT is as good as human translators (HT). I.e. bilingual speakers do not perceive HT significantly better than MT.

- 2018: ZH→EN, EN→CS (Hassan et al., 2018; Läubli et al., 2018; Toral et al., 2018)
- 2019: EN→{DE,RU}, DE→EN (Barrault et al., 2019)

Humans cannot (to some extent) discriminate between HT and top MT systems

RQ1. Can a machine distinguish between top MT and HT?

RQ2. What does the machine do differently?

Literary MT EN→NL

Build a literary-adapted MT system for EN→NL

- Data acquisition and preparation: novels in EN and their translations in NL
- Training: document-level Transformer (Junczys-Dowmunt, 2019)
- Evaluation on a set of representative novels, vs generic systems (DeepL and Google)

Build a literary-adapted MT system for EN→NL

- Data acquisition and preparation: novels in EN and their translations in NL
- Training: document-level Transformer (Junczys-Dowmunt, 2019)
- Evaluation on a set of representative novels, vs generic systems (DeepL and Google)

RQ. Does a domain-specific system outperform a strong generic system?

Build a literary-adapted MT system for EN→NL

- Data acquisition and preparation: novels in EN and their translations in NL
- Training: document-level Transformer (Junczys-Dowmunt, 2019)
- Evaluation on a set of representative novels, vs generic systems (DeepL and Google)

RQ. Does a domain-specific system outperform a strong generic system?

Use: EN novels accessible to NL audience

References

- Barrault, L., Bojar, O., Costa-jussà, M. R., Federmann, C., Fishel, M., Graham, Y., Haddow, B., Huck, M., Koehn, P., Malmasi, S., Monz, C., Müller, M., Pal, S., Post, M., and Zampieri, M. (2019). Findings of the 2019 conference on machine translation (wmt19). In *Proceedings of the Fourth Conference on Machine Translation (Volume 2: Shared Task Papers, Day 1)*, pages 1–61, Florence, Italy. Association for Computational Linguistics.
- Hassan, H., Aue, A., Chen, C., Chowdhary, V., Clark, J., Federmann, C., Huang, X., Junczys-Dowmunt, M., Lewis, W., Li, M., Liu, S., Liu, T., Luo, R., Menezes, A., Qin, T., Seide, F., Tan, X., Tian, F., Wu, L., Wu, S., Xia, Y., Zhang, D., Zhang, Z., and Zhou, M. (2018). Achieving human parity on automatic chinese to english news translation. *CoRR*, abs/1803.05567.

References II

- Junczys-Dowmunt, M. (2019). Microsoft translator at wmt 2019: Towards large-scale document-level neural machine translation. In *Proceedings of the Fourth Conference on Machine Translation (Volume 2: Shared Task Papers, Day 1)*, pages 225–233, Florence, Italy. Association for Computational Linguistics.
- Läubli, S., Sennrich, R., and Volk, M. (2018). Has machine translation achieved human parity? a case for document-level evaluation. In *Proceedings of the 2018 Conference on Empirical Methods in Natural Language Processing*, pages 4791–4796, Brussels, Belgium. Association for Computational Linguistics.
- Toral, A., Castilho, S., Hu, K., and Way, A. (2018). Attaining the Unattainable? Reassessing Claims of Human Parity in Neural Machine Translation. In *Proceedings of WMT*, pages 113–123, Brussels, Belgium.

Thank you!

Questions?