Investigating the Influence of Multi-modal input on Human Evaluation of Machine Translation Quality

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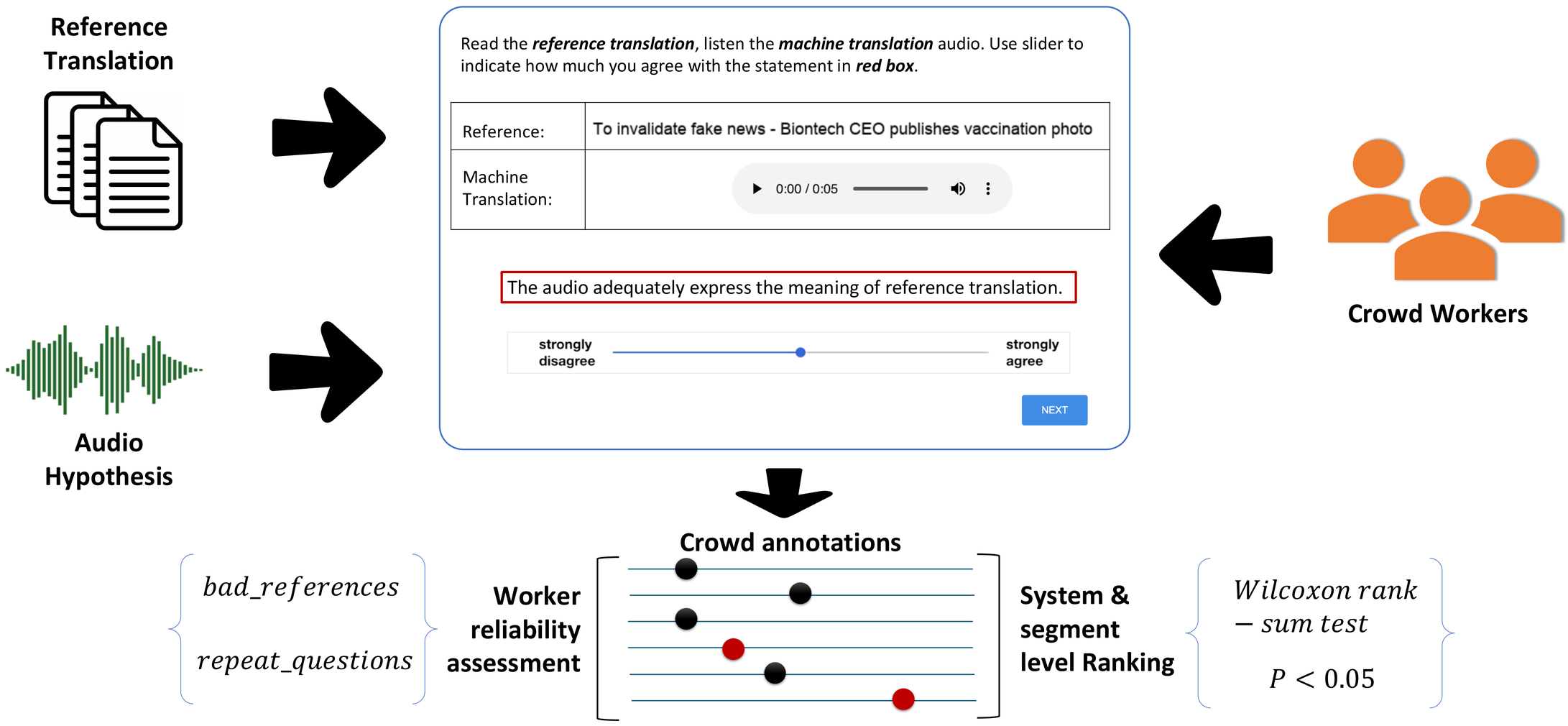
Why Human Evaluation is Important?

- Human feedback stands as the gold standard for assessing machine translation (MT) quality, aligning closely with users' actual needs and expectations.
- Ensuring the accuracy and adequacy of the translated text is crucial in preventing misunderstandings, errors, and potential legal or financial repercussions.
- While automatic evaluation metrics offer a quick substitute for measurements, their correlation with human judgments is weak.
- Expert-based assessment of translation quality is both expensive and challenging to implement on large-scale.

Multi-modal Input

- Multi-modal MT can directly translate to/from multiple modalities (such as Image, Text, Audio).
- Multi-modal evaluation metrics are essential for comprehensive assessment of MT across different modalities.
- Introducing additional technologies such as Text-to-Speech (TTS) to assessment environments may help identify subtle MT errors as compared to text-only conditions.
- Can automatic speech synthesis be leveraged to enhance MT quality assessment?
- Which of two conditions (text only, or target sound) is more conducive to better assessment of MT quality?



Crowd-sourcing Human Judgements

- Access to large pool of native speakers of different languages from around the world.
- Reference based Direct Assessment (DA) does not require bilingual experts.
- Low-cost assessments provide a viable means for individual MT developers and researchers to assess system improvements over a baseline.

Forthcoming

- Crowd annotation collection and analysis to investigate the of impact of sound conditions in comparison to text-only scenarios.
- Enabling natural-sounding artificial voices and flexibility to select between silent or sound conditions.
- Exploring the integration of Visual modality (Images, videos) to provide extra contextual information about translation.

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