

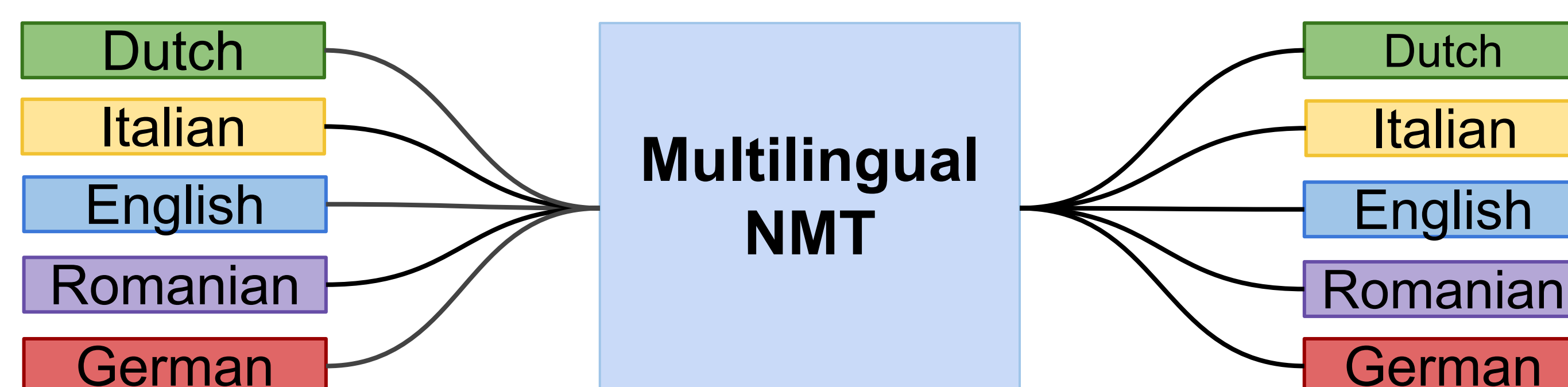
Two Shared Task Participation

- I. **Multilingual Model**: a translation task in a small data condition for **20** language directions.
- II. **Zero-Shot Model**: a zero-shot translation (ZST) task in a similar small data condition (**4** zero-shot & **16** non-zero-shot).

Overview

- 5 languages
- 20 possible directions
- ~ 200K available parallel sentences for each direction
- 5 artificial language tags (*2en*, *2de*, *2nl*, *2it*, *2ro*), used on the source side

Multilingual Setting



Types of Models Trained

Single Language Pair:

- 20 single language pair models

Multilingual Model:

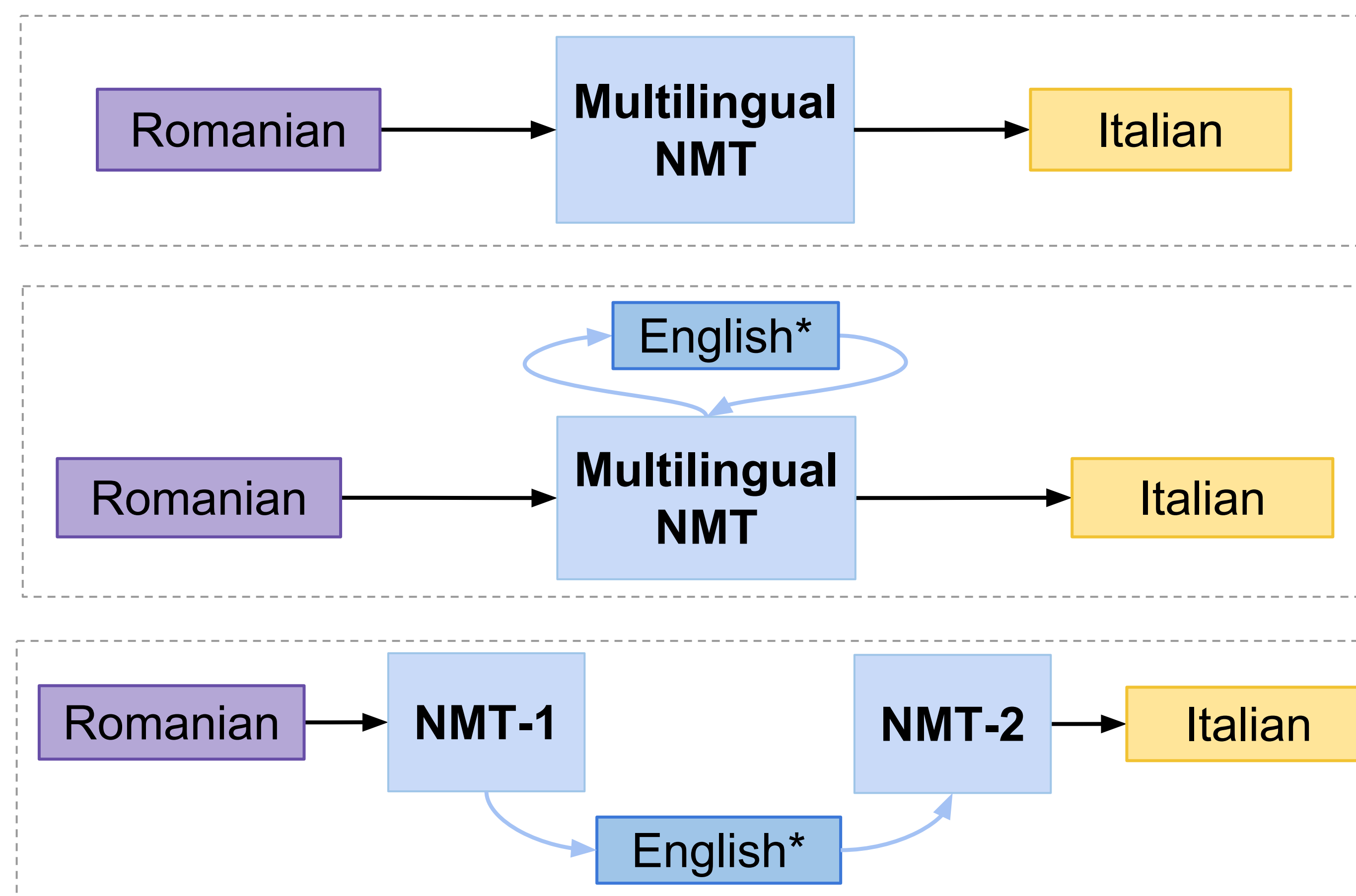
- utilized all the available dataset for 20 directions

Zero-Shot Model:

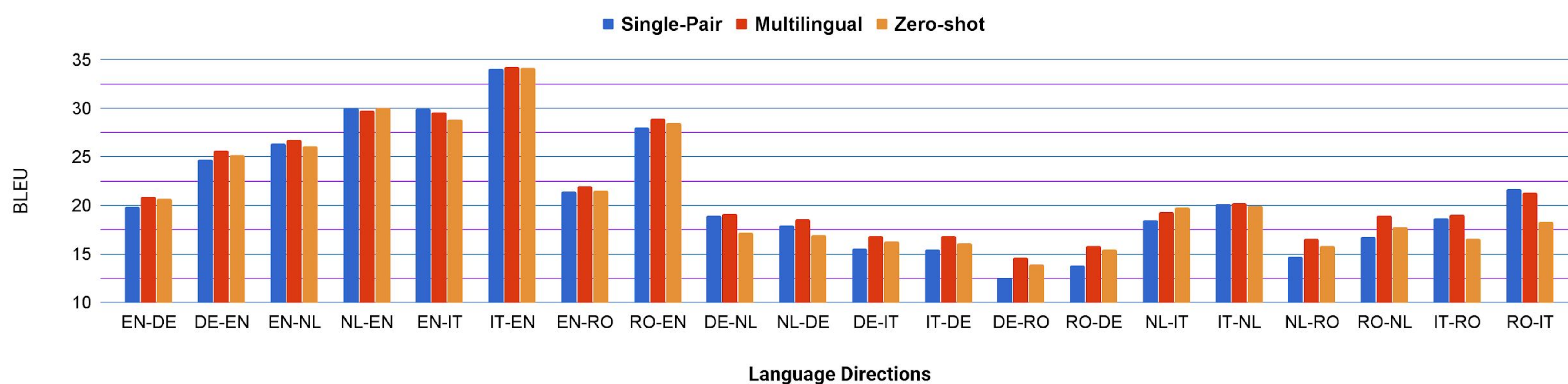
- excludes four pairs from the 20 direction training data, (Dutch \leftrightarrow German, Italian \leftrightarrow Romanian).

* All models are trained using the same parameter settings.

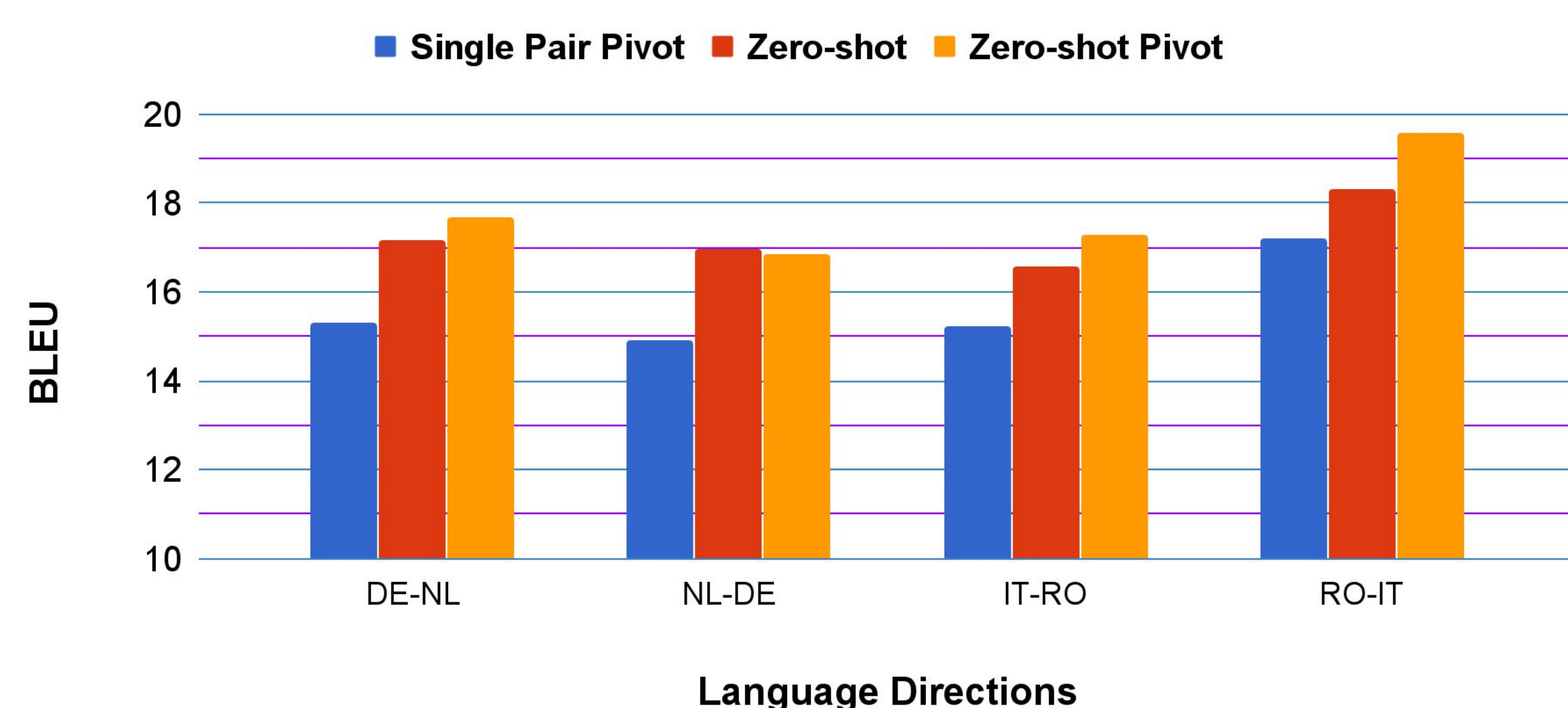
Zero-shot Translation Methods



Results Comparing 20 Single-Pair, a Multilingual, and a Zero-Shot Model



Zero-shot Translation Comparison



Conclusion

- The **Multilingual** system delivered better performance than the single language pair systems.
- The **Zero-Shot** model showed a comparable performance in the non-zero-shot directions with the **Multilingual** model.
- The **Zero-Shot** model outperformed the pivoting approach using **Single-Pair** models.