

# Gender Bias in MT from Spanish to English

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## Motivation

- Gender bias prevalent in machine translation due to training sets & models
  - Occupational gender bias
  - Relationship gender bias
- Analyze where gender bias occurs more frequently
  - More <u>misogynistic</u> or <u>heternormative</u>?
- Important to see which more prevalent
  - o Train future models on more equal data

### Methods en\_occ, Sentence verb amb\_names, es\_verb\_phrase\_occ, English translation en\_verb\_phrase\_occ, es\_verb\_phrase\_male\_rel, ungendered es\_verb\_phrase\_fem\_rel, en\_verb\_phrase\_male\_rel, en\_verb\_phrase\_fem\_rel limited with no context context context (M/F) occupation (M/F) occupation occupation verb (M/F) relationship verb occupation verb batching name (M/F) relationship verb occupation verb (M/F) relationship verb load model tensors from parse generate input text generation output model (tensors) translated text probabilities

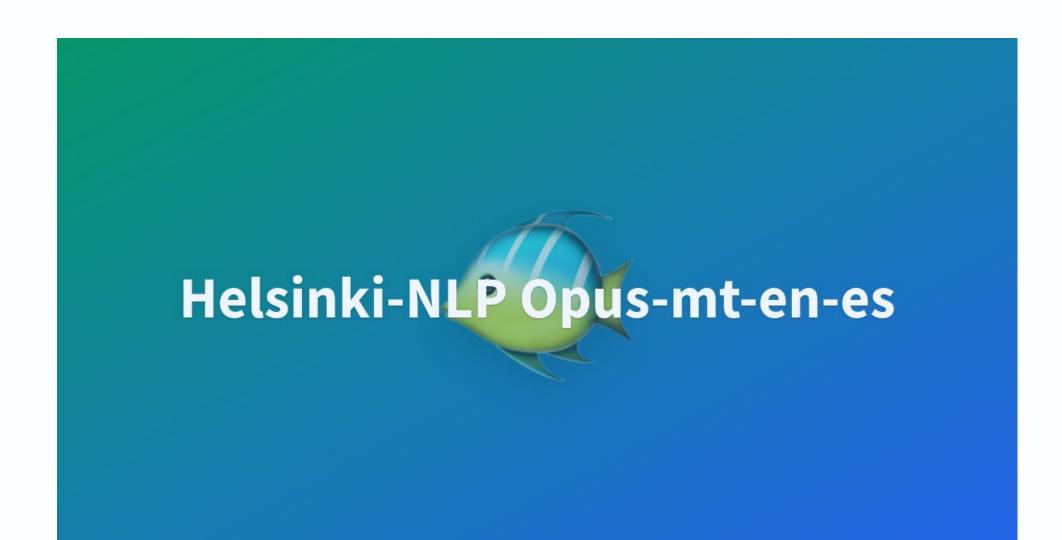
translation

accuracy

bias differential

## Data

- Model
  - Helsinki-NLP/opus-mt-es-en



- Data
  - CSV files with sentences generated using parameters written by Lauren
- > ex. sentences:
  - El maestro besó a su marido.
  - La granjera toma de la mano a su novia cuando ven una película.
  - Salvó a la familia del edificio en la lamas.

# Results

### Full Context

	Gender Agreement	Gender Disagreement	Difference in Probability in Disagreeing Genders
male_occ+male_relation	12	24	0.604
male_occ+female_relation	36	0	0
female_occ+male_relation	36	0	0
female_occ+female_relation	23	13	0.262

### • Ethical concerns:

- Only account for masculine/feminine binary
  - We do not include gender neutral words in Spanish
  - Expect he/his & she/hers, never they/their
- Future work:
  - Include gender neutral
  - See difference using different models,
    datasets, and languages