Creating a Universal Dependencies Treebank of Spoken Frisian-Dutch Code-switched Data

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UD for spoken code-switched data

- Previous work:
  - Annotating code-switches (Çetinoglu and Çöltekin (2019), Seddah et al. (2020), Partanen et al. (2018))
  - Annotating spoken data (Davidson et al. (2019), Dobrovljc and Martinc (2018), Partanen et al. (2018), Çetinoglu and Çöltekin (2019))

UD for spoken code-switched data

- Common problems: disfluencies and sentence segmentation
- Solutions: adapting guidelines versus extending guidelines

- Our data:
  - FAME!-project dataset (broadcasts from Omrop Fryslân) by Yilmaz et al. (2016) (around 18 hours)
  - Spontaneous speech/low resource/Frisian-Dutch code switching

Annotations

- Universal Dependency guidelines
- 250 sentences for test and 150 for development
- 2 annotators
- 150 sentences for inter-annotator agreement: batches of 50

Fierljeppen

	POS	UAS	LAS
Round 1	69.5	72.3	60.9

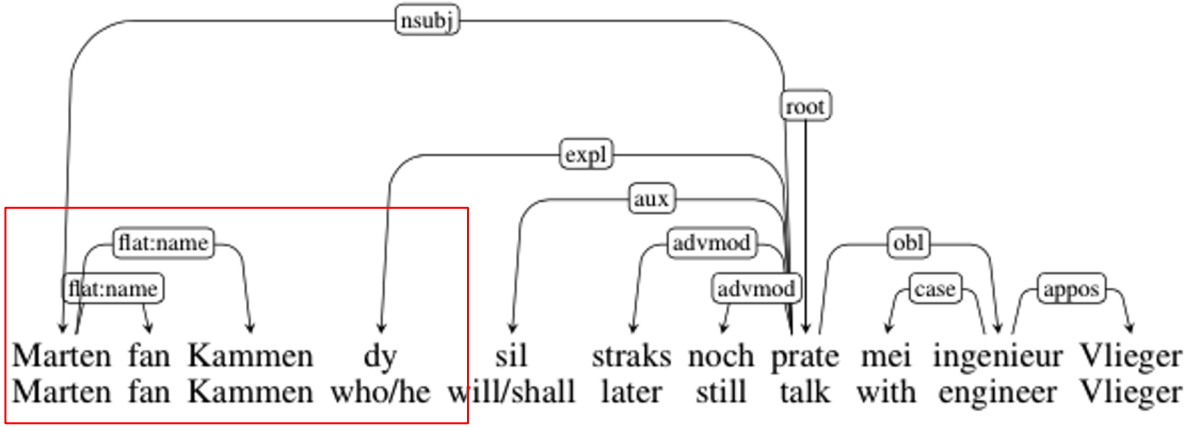
Inter-annotator agreement

- 150 sentences for inter-annotator agreement: batches of 50
- 2 annotators
- Disagreements due to:
  - difficulties with non-standard constructions
  - sentence segmentation
  - interpretation of utterances (ambiguity)
  - annotators had to learn the guidelines

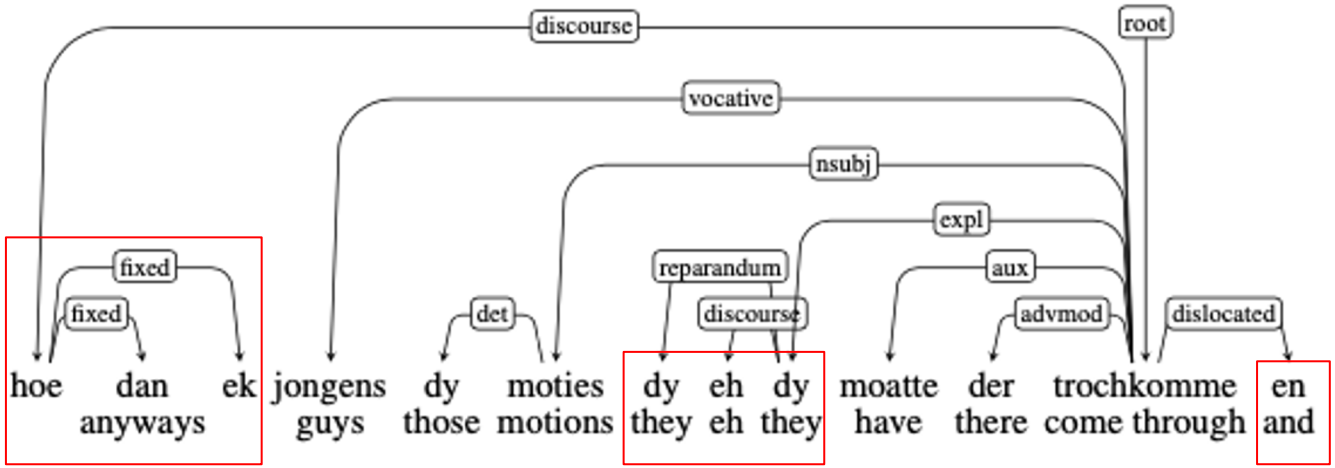
	POS	UAS	LAS
Round 1	69.5	72.3	60.9
Round 2	87.1	76.1	64.6
Round 3	89.7	80.1	71.4

Table 1: POS, UAS and LAS scores between the two annotators.

Annotation issues:



Annotation issues:



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First experiments

- MaChAmp
- Single treebank training (selection of 25 treebanks)
  - Dutch Alpino: 72.10 UAS and 55.28 LAS
  - Dutch LassySmall: 71.01 UAS and 54.48 LAS
- Data selection
  - LDA/GMM
  - Number of treebanks
  - Number of clusters
  - Features
  - Can we exploit small Frisian Universal Dependency treebanks?

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