Advanced programming in Python

Lecture 12: Python in Natural Language Processing

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Chalmers/GU CSE (DAT515/DIT515)

Who

- PhD student in Natural Language Processing (or Computational Linguistics, or Language Technology...) at Språkbanken Text, GU
- particularly interested in:
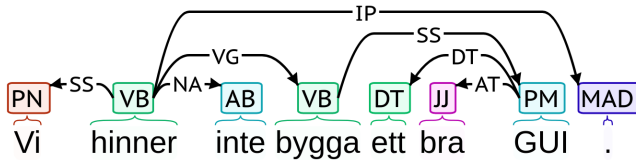 - computational syntax
  - Computer-Assisted Language Learning

Who

- PhD student in Natural Language Processing (or Computational Linguistics, or Language Technology. . .) at Språkbanken Text, GU
- particularly interested in:
    - computational syntax
    - Computer-Assisted Language Learning
    - Swedish

We are going to build a mini Python application to practice Swedish syntax (adverb placement), but. . .
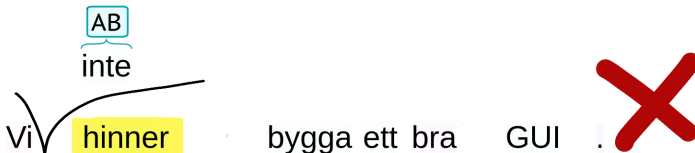

"We don't have time to build a proper GUI"

With **Part-Of-Speech annotation** and **dependency parsing**:

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Vi   hinner   inte bygga ett bra   GUI   .

With **Part-Of-Speech annotation** and **dependency parsing**:

Vi hinner bygga ett bra GUI .

With **Part-Of-Speech annotation** and **dependency parsing**:

Libraries

- **python-korp**, a wrapper for the Korp API, to retrieve linguistically pre-annotated sentences from large Swedish corpora
- **Spacy**, a widely used NLP library, to annotate our own sentences

Let's build something!

In conclusion

2h prototype of a language learning app:

- code: `github.com/harisont/advpy_nlp`
- possible extensions:
  - GUI
  - other POS/dependency relations (customizable queries)
  - other languages (with Universal Dependencies)
  - …

To learn more

- Korp user manual:
  `spraakbanken.gu.se/en/tools/korp/user-manual`

- Official Spacy website: `spacy.io`

- Aarne's Computational Syntax course