

# Language Technology

Welcome to the Lang Tech group. We offer any service in the area of Computational Linguistics, Corpus Linguistics and Text mining, such as collecting data, Data Processing, Application Development, Data Archiving, Text Mining, Content Analysis, Workshops, consulting and coaching, developing and managing specialized software.

The Lang Tech groups is a part of LiRI (Linguistic Research Infrastructure), one of several Platforms at the University of Zurich. We are a service offered to both external partners or customers and to all departments of the University of Zurich.

Data the we work with includes:

- corpora
- statistical data
- device recordings (voice, EEG, eye-tracking, MRI)
- language models
- databases

Our offers include the following activities: NLP, Corpora and Assitive Technologies, Application Development

## NLP

If any of the following applies to you, you are in the right place:

As a researcher, do you want to base your empirical findings on linguistic data such as text collections or voice recordings?

Does your company need help in collecting, managing, processing or visualising linguistic data?

Do you want to automate tedious manual tasks?

Do you intend to make your documents machine-readable?

Do you want to detect historical trends, political leanings, personal stance?

Do you have an interesting application in mind which is built on text or recordings or eye-tracking data?

Does your text search need an upgrade?

Do you want to get started to implement language technology solutions yourself?

Do you have historical documents that you are looking to digitalise?

If you need help with the technological side of things, we are here for you!

At the NLP team experts support your text and voice technology needs, such as:

- Text Analytics & Data Mining
- Information Extraction
- Part-of-speech tagging, syntactic parsing, semantic tagging
- Sentiment Detection
- Create and adapt language models
- Data Classification
- Machine Learning & Deep Learning
- Machine Translation
- Statistical Data Processing
- Data Exploration
- Audio signal processing (e.g. for human speech or animal vocalisations)
- Speech Recognition and Synthesis
- Data conversion

We offer consulting, coaching, and support in the following scenarios (among others):

- Digitalisation of printed texts and manuscripts including OCR
- Efficient information extraction and analysis of large text collections
- Enrichment of texts with named entities, sentiment analysis, topic modeling, and classification, including multilingual and historical texts
- Advice on tools, software, and best practices
- Help with project applications and common projects

### **Corpora & Assistive Technology**

- Visualisation
- Databases to store and search data collections
- Querying
- Anonymisation
- Data crawling/scraping and processing of web sources, batch download of documents

- Data conversion
- Data exploration
- Multimodal corpora
- Conversation analysis

## Application Development

We are experts in developping software applications, such as:

- Workflow applications for the management and annotation of linguistic data
- Exploration of data collections
- Ready-made scientific solutions for unversity and industry
- Technology Transfer to scale to real-world data
- Innovative interactive visualisation techniques
- Analysis of data over space and time
- Annotation tools and interfaces
- Geodata
- Public Engagement
- Crowd Sourcing
- Citizen Science

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