

## Sentimental Analysis in Speech

**Background:** In neurodegenerative diseases, such as Alzheimer's, Parkinson's and Multiple Sclerosis, disruptions in cognition, manifested as change in emotion and social behavior, are common forms of psychopathology. Moreover, drastic changes in a person's mood can be used as a predictor for the progression of such diseases or even as an early identifier for their presence. However, the assessment of mood is oftentimes not reliable since it is either collected via questionnaires or the subjective impression of caregivers. In addition, many older adults are not receiving full care, resulting in missing such important mood changes. A promising concept to automate and objectify classify mood changes are emotional and behavioral systems in speech. Such systems involve a sentimental analysis, the study of emotions in spoken language, which then can be used to extract to comprehend and extract human mood in conversations.

**Aim:** Therefore, the aim of this project is to develop algorithms to detect changes in mood by performing a sentiment analysis in transcribed German speech and audio recordings.

### Materials and Methods:

The thesis will consist of three parts: First, the student will learn the concept of sentiment analysis and its relevance in neurodegenerative diseases. Next, a speech data-set by recording healthy subjects is created. Lastly, a sentiment analysis is applied on the data-set.

### Nature of the Thesis:

Development of algorithm: 30%

Experiment: 10%

Analysing of the experiment data: 60%

### Requirements:

Solid knowledge in data analysis

Good programming skills

### Supervisors:

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**Figure:** Apartment where the experiment will be conducted