

# Say what? learning to recognize speech

Semester or Master project

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## Description

Speech recognition translates spoken words into text. Recently, this domain has become popular as a way to interact with computers and mobile devices. One famous example is Apple iOS personal assistant *Siri* in which speech recognition is at his heart.

One widely-used technique for speech recognition is based on hidden Markov models. These are probabilistic models that output a sequence of characters or words. They have the advantage of being completely unsupervised, and do not require labelled data to learn the model. Other approaches are based on dynamic time warping or neural networks.

We are interested here in a semi-supervised learning approach in which we will be able to train our algorithms on partially-labelled data. The goal of this project is to survey the state-of-the-art algorithms in speech recognition, implement and evaluate several algorithms, and possibly improve them.

## Tasks

1. Survey the state-of-the-art algorithms in speech recognition
2. implement the algorithms
3. evaluate the algorithms
4. improve existing approaches
5. optional: implement your algorithm as a human-computer interface