



TSIA 206 - Speech and audio processing

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Course objectives

You will master :

- signal processing and machine learning methods

dedicated to :

- the analysis and the classification of speech and audio/music signals.

Speech processing : lectures and labs

Teacher - Chloé Clavel, Geoffroy Peeters, Matthieu Labeau

Lectures :

- Speech production, perception and recognition
- Speech synthesis
- Speech emotion recognition
- Deep learning for audio and speech

Lab (python) :

- Dynamic Time Warping for automatic speech recognition

Audio/music processing

Teachers : Roland Badeau, Umut Simsekli, Giovanna Varni

Lectures :

- Source separation
- Non-negative Matrix factorization
- Spectral and temporal modifications
- Musical gesture analysis

Labs :

- Source separation, Non-negative Matrix factorization, Spectral and temporal modifications

Materials

See e-campus

Evaluation

For each practicum session, write a short report in English in which you describe design, implementation, encountered difficulties of the different practical classes and also your reflection on where are the challenges

- Submit the report on moodle

Write a reading note in English on a paper you choose where you indicate its research questions, methodology, computational model and explain its pros and cons.

- Submit the reading note on moodle

GRADE : 1 Lab session + reading note of the paper