Processing Face and Voice Identity – from Fundamental Research to Applications in Law Enforcement

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1 ECTS

Summary

Every day we encounter a large number of individuals. Some of these are, or become personally familiar to us, while others remain unknown, or at best superficially familiar. Distinguishing known from unknown people, becoming familiar with unfamiliar ones, or identifying specific individuals based on their faces are socially crucial tasks. We tend to think that these tasks are trivial; mostly we feel that "faces are easy to remember, but names are easy to forget". However, there is ample evidence suggesting the contrary: face processing is difficult and error prone, especially when it comes to *unfamiliar faces*. A select few of us, so-called Super-Recognizers, however, excel at this. Although their skills are currently not well understood, interest in their deployment in e.g. policing is rising.

In this course, you will receive an introduction into face processing research, with a focus on processing of facial identity. The goals are to provide an understanding of face processing skills with a focus on

- naturally occurring inter-individual differences, and factors that influence individual performance levels;
- its neural basis;
- differences between human and automatic face processing;
- how to identify Super-Recognizers, and if they can make societies safer.

Next to a linguistic message, voices contain information by which a speaker can be recognised. This individuality information is of high social relevance. Humans rely on being recognised and recognition failure is a social misconduct that can lead to high embarrassment. As such voices are a key part of our personality. But the individuality in voices can also be used in industrial individual recognition, e.g. in systems that allow access to specific users based on their voice or in forensic phonetics where the identity of a voice is disputed under legal circumstances.

This part of the course will introduce to the fascinating world of voice individuality and the social and technical applications related to it. The course has the objectives to understand

- why the acoustic signal of voices is individual;
- how humans and machines recognise voices;
- the effects of disabilities in recognising voices;
- how voice recognition can be applied in legal contexts (forensic phonetics).

Content of course sessions	Session 1: Face processing Session 2: Voice processing
Course dates and location	- June 1 & 2, 2023 (Thu & Fri) from 9-12 & 13-16h - Lausanne, Geopolis building @ UNIL-Mouline (metro M1 direction EPFL), room 2129.
Evaluation	Active participation and engagement in discussions.
Registration	The course is limited to 25 participants. Register before May 1 by writing a mail to lndscourses@gmail.com (with your supervisor in copy) and stating the course title as subject.