Winter Term 2024/25 Lecture: "Speech and Audio Signal Processing"



Example questions on Lecture 1 (Introduction: Speech generation and perception):

- 1) How does the speech generation model look like? Please differentiate between voiced and unvoiced components?
- 2) What is the fundamental (pitch) frequency? What are typical values for male and female persons?
- 3) What are formants? How are their positions related to different vowels?
- 4) Describe the k-means iteration?
- 5) How is the reverberation time of a room defined?
- 6) How does a human perception threshold look like? At which audio frequency range are humans most hearing sensitive?
- 7) How are different frequency values mapped on the basilar membrane? How is the mapping linked to frequency groups and bark scale?
- 8) How does frequency masking look like? How is the effect on the hearing threshold?
- 9) What is time masking?
- 10) What are binaural cues? How is localization of sound linked to binaural cues?