Memorability of conversations and prosody

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Description

Prosody has been long known to affect our perception of speech. It's tough to concentrate on a monotonic lecture. On the other hand, a lecturer with varying prosody is more comfortable to follow. An engaging speaker helps their listeners keep alert and memorise the speech's content (Strangert & Gustafson 2008) by stressing the critical words, pausing when needed, and expressing excitement about the topic. The relation between prosody and short-term memory has been studied extensively (e.g. Rodero 2015) as has the relationship to syntactic difficulty (Rosner et al. 2003). However, these studies did not investigate the effect on long-term memory and didn't differentiate between different information types. In conversational agents research, prosody has been shown to increase user overall engagement and satisfaction (Chaoi & Agichtein 2020), but the question of memory facilitation seems to remain uncovered. In this thesis project, you will investigate whether prosody affects the long-term memorisation of the information communicated by a conversational agent. Another question that can be asked is memorisation of what kind of information gets affected by prosody the most.

Related MSc courses

- Conversational Agents (CS4270)
- Seminar Social Signal Processing (CS4165)
- Behaviour Change Support Systems (CS4015)
- AI techniques (IN4010)

Related key publications

1. Choi, J. I. & Agichtein, E. Quantifying the Effects of Prosody Modulation on User Engagement and Satisfaction in Conversational Systems 2020
https://arxiv.org/pdf/2006.01916.pdf

2. Rodero, E. (2015). Pitch Variations to Stimulate your Memory. How Pitch Variations can Improve Effectiveness, and Memory of an Audio Message. Fourth Annual Nonverbal Behaviour Preconference. Society for Personality and Social Psychology of America, Long Beach, USA.
https://www.researchgate.net/publication/280568654_Pitch_Variations_to_Stimulate_your_Memory._How_Pitch_Variations_can_Improve_Effectiveness_and_Memory_of_an_Audio_Message

3. Rosner, B., Grabe, E., Hanneleb., M., Nicholson, Owen, K., & Keane, E. (2003). Prosody, Memory Load, and Memory for Speech.
https://www.semanticscholar.org/paper/Prosody%2C-Memory-Load%2C-and-Memory-for-Speech-Rosner-Grabe/dfd98a85776f772a2c3d1dc4778d8fb6e3d3a592

4. Strangert, Eva & Gustafson, Joakim. (2008). What makes a good speaker? Subject ratings, acoustic measurements and perceptual evaluations. Proceedings of the Annual Conference of the International Speech Communication Association, INTERSPEECH. 1688-1691. https://www.researchgate.net/publication/221485164_What_makes_a_good_speaker_Subject_ratings_acoustic_measurements_and_perceptual_evaluations