**Thesis:** Towards Explaining Variation In Entrainment

**Abstract:** Entrainment refers to the tendency of human speakers to adapt to their interlocutors to become more similar to them. This affects various dimensions and occurs in many contexts, allowing for rich applications in human-computer interaction. However, it is not exhibited by every speaker in every conversation but varies widely across features, speakers, and contexts, hindering broad application. This variation, whose guiding principles are poorly understood even after decades of entrainment research, is the subject of the proposed thesis.

First, we demonstrate the extent of the variation through analyses of different corpora, including the first broad investigation of entrainment in Hebrew. Our results challenge the basic assumption, implicitly made by theoretical accounts of entrainment, that it is a single behavior or a structured collection of behaviors. They also show that differences cannot consistently be attributed to gender, native language, or the language of conversation. In a second part, we present original, neural entrainment measures which aim to address shortcomings of established methodology and yield intriguing preliminary results that motivate us to propose further work.

Further, we present a newly designed, implemented, and partially collected corpus for the purpose of studying variation in the entrainment behavior of the same subjects towards different partners in two conversation contexts. We propose various analyses of these recordings and the psychological data collected alongside them. Together, this work represents an important, original contribution towards explaining variation in entrainment.

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