



BA / Labrotation - Project

Title: Perception of body motion from primate and human avatars

Understanding how the brain processes body movements is a fundamental challenge in cognitive sciences and neurosciences. Body movements convey important information about actions, but also social information, for example, about emotions. Is such information about bodies encoded in a species-specific way, thus can we recognize emotional signals equally well from humans and other primate species?

We use avatar models that are animated using computer graphics techniques to clarify this question. Using machine learning approaches, we can extract surface models of primates from photographs and videos. This makes it possible to animate the bodies of humans and other primate species (monkeys, apes, etc.) with exactly the same body movements. We want to study how the recognition of body posture and motion depends on the species of the observed avatar.

The project will build on already existing methods for the generation of body avatars and available motion tracking data. The task is to realize a psychophysical study that investigates how the species interacts with the accuracy of the perception of dynamic bodies and body movements, testing human subjects. This will include data acquisition and statistical analysis. If there is interest in computer animation, also a participation in stimulus generation is possible.

We are looking for students with interest in:

- psychophysics with human participants
- computer animation or game development, and / or motion capture
- cognitive basis of social vision
- analysis of behavioral data

This project offers a unique opportunity to contribute to research at the intersection of psychophysics, computer graphics, and neuroscience. The project will be under the supervision of Lucas Martini, and Prof. Dr. Martin Giese from the Hertie Institute for Clinical Brain Research / Centre for Integrative Neuroscience.

If you are interested please send an email to: lucas.martini@uni-tuebingen.de