Bachelor-/Master-Theses (up to 3):
Computer Science or Digital Media
Computer Vision (CV) for Modeling Human-Avatar Interactions

Setting:
• We study how being “synchronized” with an avatar influences human facial responses to avatars.
• This work is part of an interdisciplinary DFG project (https://www.uni-bremen.de/en/csl/projects/current-projects/ccsr)

Tasks:
• CV-based machine learning (ML) to classify and analyze human responses to online avatars (e.g., using scikit-learn libraries and pre-processed features from OpenFace, MediaPipe)
• Testing and further development of our current Interactive Online Experimentation Platform (more emphasis on this point for students from Digital Media)
• Comparison of ML approaches to predict human behavior across different time phases (e.g., starting with regression models; more emphasis/depth for a MA-topic)

Requirements:
• Good programming skills (e.g., Python, optional Unity)
• Interest in VR and Computer Vision (e.g., OpenCV, OpenFace, OpenPose)
• Basic knowledge in ML (more emphasis for a Computer Science topic)
• Basic knowledge in pipeline development (more emphasis for Digital Media)
• High motivation, creativity, and reliability

When:
• As soon as possible!

Other:
• The focus of these BA/MA theses is flexible depending on which of the above tasks are most interesting to you!

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