Bachelor / Master Thesis –
The Impact of Feedback in VR Coaching

How to provide feedback for motor learning applications in Virtual Reality? This is one of the most crucial questions for learning applications: Even for pure visual feedback, a vast number of possibilities is available. Do you present feedback already while a participant is conducting a movement? Or do you wait until the execution is finished? If you wait, how fast does your system have to react to remain natural? These questions form an important line of research in our examination of VR coaching applications. With this thesis you have the chance to extend our knowledge on visual feedback in the field of motor learning.

The thesis aims at extending our virtual coaching space with new types of visual feedback. Of course, the developed feedback strategies will be evaluated in a user study. The focus will be on simple feedback strategies such as color highlighting. Additionally, depending on your level (BA or MA Thesis) the role of delay in the presentation of terminal feedback will be investigated. You will build up on our infrastructur which contains different types of movement analysis as well as the basics to present visual feedback using a low latency rendering engine. The thesis will be located inside the Large Scale Project "Intelligent Coaching Space" (ICSPACE): The project aims at the research question of how humans can be supported in learning and practicing movement tasks, as needed in sports training, motor skill learning, or physical rehabilitation.

Recommended skills:
- Experience in C++ or Python programming
- Experience in conducting user studies
- Basic knowledge in statistics

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