

The Computer Vision & Graphics (CVG) group is looking for a student research assistant in

## Virtual Avatars and Motion Retargeting

Fraunhofer HHI hosts a state-of-the-art volumetric video studio. There, performances of actors are captured with 32 high-resolution cameras, and turned into full 3D sequences. Our group makes the recorded models animatable by enriching them with semantic information from human body models. These digital humans are then used in immersive experiences:

<https://www.hhi.fraunhofer.de/en/departments/vit/research-groups/computer-vision-graphics/research-topics/animatable-volumetric-video.html>

We aim to create advanced XR systems that enable users to interact naturally with their environment and access real-time, domain-specific knowledge to complete new tasks. Specifically, we focus on developing realistic virtual avatars that interact with users. These avatars are animated using both classical and neural models to synthesize realistic human motion.

### What you will be working on:

We are seeking a motivated student to perform motion retargeting of motion capture data from various sources to our models. You will be part of developing neural models applied to human motion synthesis and integrating this data into our virtual avatars.

### Your qualifications:

- Enrolled in a Master's program in Computer Science, Mathematics, Physics, or a related field.
- A good understanding of computer graphics and rendering
- Experience with Python programming and machine learning frameworks (e.g., PyTorch) or similar
- Familiarity with Unity or similar rendering engines is desirable.
- Excellent problem-solving and communication skills.

### What we offer:

- The ability to work on exciting technology in the domain of computer graphics
- A highly motivated, international team and excellent hardware equipment
- The freedom and encouragement to discuss and pursue your own ideas, with the benefit of guidance and advice from senior researchers and leading experts of the field
- The opportunity to write research papers and/or pursue a final thesis

If you are interested, please contact:

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