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

Animatable Volumetric Video, 3D Rendering of Digital Humans

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

What you will be working on:

You will be pushing the boundaries of animatable volumetric video: building live experiences for virtual and augmented reality, showcasing immersive content of digital humans. You will improve our Unity volumetric video decoding and rendering pipeline, and craft AR demos for Android and iOS devices. You will work with classical computer graphics models (textured meshes) from the volumetric sequences, hybrid models including content synthesized from neural networks, and explore the implementation of bleeding-edge implicit models such as neural radiance fields (NeRFs).

Your qualifications:

- Studying computer science, mathematics, physics or an equivalent field
- A good understanding of computer graphics and rendering
- Previous experience with a programming language used to build GPU rendering experiences: C++, C#, Java, CUDA or similar
- A willingness to deep-dive into various technologies to build custom demos, depending on the use case: e.g. Unity, gstreamer/libav, iOS and Android app deployment (from Unity), CMake, CUDA, custom shaders, …
- You are motivated to work with animatable volumetric video, and excited to build demos for current research trends, such as neural radiance fields (NeRFs)

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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