Funded PhD Positions in

Geometric Computing / Computer Graphics / Virtual Reality

The work in this position will be carried out within the project "EASE – Everyday Activity Science and Engineering", which is to perform fundamental research to enable robots to perform human everyday activities, such as setting a table or loading a dish washer.

One strand of research of the CGVR lab in this endeavor is sub-project H01 ("Acquiring activity models by situating people in virtual environments"), where we will deal specifically with the challenge of grasping. Here, the task is to develop novel methods such that a human user can grasp virtual objects using a virtual hand with high simulation fidelity and high dexterity. The goal is to allow humans to interact with virtual objects just like in real live, and to study their grasping behaviors under a large variety of scenarios and parameters.

The other strand of research is sub-project R03 ("Embodied simulation-enabled reasoning"), where we are to develop algorithms that enable robots to "envision" the outcomes of their tentative plans by simulating the real world around them, before they actually follow through with their plan. This requires novel methods for faster-than-realtime physically-based simulation and the development of predicates in order to evaluate the outcomes.

The work will involve research on geometric real-time algorithms and physically-based simulation. In addition, it will involve computer graphics and virtual reality, in general. Also, while we don't prove theorems, you should be comfortable with mathematical thinking and applying maths.

More information can be found at: http://cgvr.informatik.uni-bremen.de/jobs.shtml