SUPER – Stuttgart University Program for Experiencing Research Project Information

Institute's Information

Name of Institute	High Performance Computing Center Stuttgart (HLRS)
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Duration of Project/Number of Students

June/July	
June/July/August	3
Number of Students	3

Name of Project   Virtual and Augmented Reality

Beneficial Skills & Knowledge   Applicants should be familiar with an object oriented Programming language. If possible C++

Description of Work

We can host up to three students next summer. Some of the projects you might work on are briefly outlined below:

Crime scene reconstruction and Virtual Autopsies: In a collaborative project with the forensics institute in Zürich, you will be working on integrating a 3D modelling application (Autodesk 3D-Studio Max) into our immersive virtual environment. The goal is to improve crime scene reconstruction.

Spatial planning and public participation:
You will be working on Automatic AI classification of vineyards to assess the status of dry walls and vines and create a 3D digital twin of steep slope vineyards on the river Neckar.

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Collaborative virtual environments: Virtual environments can be linked through the network to form a collaborative workspace. Remote users are typically represented as avatars. Our current avatars are minimalistic and only consist of 3D glasses, a hand and feet. You will be working on configurable 3D avatars probably featuring full body motion tracking.

Driving Simulator: You will be working on integrating OpenPASS, a traffic accident simulation into our immersive driving simulator. This work will be done in close collaboration with Porsche and/or Daimler.

Wheelchair simulator: You will be writing a real time vehicle dynamics with force feedback for our new wheelchair simulator

Paraglider simulator: You will be improving the flight dynamics of our Glider simulator.