Postdoc Position – Virtual Human Modeling and Animation – Max-Planck-Institute (MPI) for Informatics

The Visual Computing and Artificial Intelligence Department at MPI for Informatics headed by Christian Theobalt investigates foundational research problems at the intersection of Computer Graphics,
Computer Vision and Artificial Intelligence.

[Department website](#)

It is our long term vision to develop entirely new ways to capture, represent, synthesize and simulate models of the real world at highest detail, robustness, and efficiency. To achieve this long term goal,
we develop new concepts that rethink and unite established approaches from Computer Graphics and Computer Vision with concepts from Artificial Intelligence, in particular Machine Learning.
Our work lays the foundations for a new of thinking about computer graphics, and a new way of uniting and enriching the real world with computer graphics technology. It also lays the foundations for
advanced methods to better perceive, understand and interpret the complex real world in motion surrounding us from visual observation, which is an essential capability of future intelligent computing
systems that safely and intuitively interact with humans and the human world. Example topics of research are

-Virtual Humans
-Neural Representations and Neural Rendering
-Deep Learning for Visual Computing
-AI for Graphics and Vision
-Visual Scene Understanding
-3D and 4D Reconstruction
-Multi-modal Reconstruction and Synthesis
-Free-viewpoint and 3D Video
-Marker-less Motion and Performance Capture
-3D Image Analysis and Synthesis
-Inverse Rendering
-Animation
-Geometric Modeling
-Virtual and Augmented Reality
-New Sensors for Visual Computing
-Physically-based and Image-based Rendering
-New Methods for Man-Machine Interaction

The department also features a 350 sqm laboratory space that is home to unique state-of-the art facilities for capture and display of real world models, in particular humans, at highest detail.
Examples include a dynamic capture studio with 120 4K cameras and several more unique capture and display setups.

Currently, we are looking for **outstanding postdocs** in the general area of **machine learning for virtual human modeling and animation,** with topics such as:

  -neural and neuro-explicit models for human modeling, reconstruction and animation
  -Reinforcement Learning for animation
  -physics-based animation
  -Text- and audio-driven animation synthesis

Postdocs will have the possibility to work with a very active team and shape their forefront research agenda. They will also be able to work with unique data and capture facilities to advance the state of the art in this area.

Further, as a result of a new strategic partnership with Google, Christian Theobalt is directing a new research center on visual computing, interaction and AI at the MPI for Informatics (see: http://www.via-center.science), which offers additional exciting opportunities for forefront research in the area.

Applicants for postdoc positions should have an outstanding PhD in computer science or related field and have conducted research in one or more of the areas listed above. Applicants should have an excellent track record of publications in the top tier conferences in vision (CVPR, ICCV, ECCV etc.), graphics (EUROGRAPIHCS, SIGGRAPH, SIGGRAPH Asia etc.) or machine learning (NeurIPS, ICML, ICLR etc.). The application package should contain a CV, a statement of research, transcripts and the contacts of at least two academic references.

The Max Planck Society seeks to increase the number of women in those areas where they are underrepresented and therefore explicitly encourages women to apply. The Max Planck Society is further committed to employing more individuals with handicaps and particularly encourages these to apply.

In case you are interested, please contact us at: d6-applications@mpi-inf.mpg.de

Christian Theobalt

Background Max-Planck-Institute for Informatics:

The Max-Planck-Institute for Informatics in Saarbrücken is one of the world's leading research institutes in Computer Science. Since the foundation of the institute's establishment in 1990 it has researched the mathematical foundations of information technology in the areas of algorithms and complexity, as well as logic of programming. At the same time researchers at the institute have developed new algorithms for various application areas such as databases and information systems, program verification, and bioinformatics. Basic research in visual computing, i.e. computer graphics and computer vision, at the intersection to artificial intelligence and machine learning, is also an important focus of the institute. With publications at the highest level and the education of excellent young researchers, the MPI for Informatics plays a major part in advancing basic research in computer science.

Background Max Planck Society:

The Max Planck Society is Germany's most successful research organization. With 29 Nobel Laureates among the ranks of its scientists, it is on equal footing with the best and most prestigious research institutions worldwide. The more than 15,000 publications each year in internationally renowned scientific journals are proof of the outstanding research work conducted at Max Planck Institutes – and many of those articles are among the most-cited publications in the relevant field. The currently 86 Max Planck Institutes and facilities conduct basic research in the service of the general public in the natural sciences, life sciences, social sciences, and the humanities. Max Planck Institutes focus on research fields that are particularly innovative, or that are especially demanding in terms of funding or time requirements.