PhD/PostDoc Position in XR
(Mixed-, Virtual-, Augmented-, Cross-Reality)

About us: The *Human-Centered Computing and Extended Reality Lab* at the Technical University of Munich (TUM) aims to pioneer new technologies in the areas of Machine Intelligence, Robotics, Extended Reality (XR), Human-Machine Interaction. At the HEX Lab, we pursue fundamental, translational, and radical blue-sky research, focused on the context of medicine. We follow a holistic perspective on machine intelligence, emphasizing AI-driven technologies that enable meaningful collaboration between humans and machines, and thus create an inter- and transdisciplinary research environment with talents in the above fields with the goal to perform and publish research of the highest quality. The lab is located in central Munich next on the TUM University Hospital Campus (Klinikum rechts der Isar). We are affiliated with TUM's School of Medicine and Health, TUM's School of Computation, Information and Technology, TUM' University Hospital and the Munich Institute of Robotics and Machine Intelligence (MIRMI) as well as the Robotics Institute Germany (RIG).

About the position: We seek exceptionally qualified candidates in the field of XR (Mixed-, Virtual-, Augmented-, Cross-Reality) to join, researching XR and intersecting with artificial intelligence and robotics. The position offers a unique opportunity to closely interact with medicine, surgery, and clinical robotics. The candidate will play a crucial role in developing and optimizing real-time XR systems designed for dynamic and complex medical scenarios. The position is a full-time paid (German Tarif, TVL E13) position. Part time employment due to family or other related social responsibilities is welcomed. PhD candidates will be embedded in TUM's Graduate School, receiving a PhD degree in Computer Science when successful.

Requirements:

- Excellent Master's degree in Computer Science or a related field
- Excellent programming skills in Unity3D or Unreal, and in relevant languages, SDKs, and frameworks (e.g., C#, C++, CUDA, TensorFlow/PyTorch, OpenCV)
- Experience or contact with machine learning/deep learning, real-time systems
- Familiarity with relevant XR devices and hardware
- Excellent technical skills
- Previous contact to scientific writing (co-authorships, authorships)
- Experience with user studies

Additional Post-Doc requirements:

- Excellent scientific track record with publications in top-tier venues (e.g., TVCG, IEEE VR, ISMAR, CHI, ICCV, ECCV, CVPR, SIGGRAPH)
- Experience with third-party funding projects and/or their acquisition
- Strong communication, team- and leadership skills
- Experience in student supervision

We are looking for team players with strong problem-solving skills, an excellent research mindset, and a passion for interdisciplinary collaboration. Candidates should be willing to get engaged into team responsibilities and are encouraged to engage in teaching activities. Candidates are expected to publish in top-tier venues and contribute to an open, innovative, and impact-driven research culture. We welcome, embrace, and respect diversity of people, identities, and cultures. We therefore encourage all potential fitting candidates, regardless of their personal background, to apply for the opportunity.

Technical University of Munich

Human-Centered Computing and Extended Reality

Application process:
Please submit the following documents. Incomplete applications will not be considered.

- ☐ **Academic CV**
- ☐ **Two-page research statement** outlining their proposed research interest (identifying a research problem and planning their research approach while reflecting on their skills and past experiences, emphasizing a clear research vision and referencing to the state-of-the-art)
- ☐ **Academic transcripts, research publications (if applicable)**
- ☐ **Two references**

📩 **Apply via email:** hex-application.ortho@mh.tum.de

📅 **Deadline:** Applications are accepted until the position is filled with a fitting candidate.

📍 **Lab Location:** Trogerstr. 10, 81675 Munich, Germany

🌐 **Contacts:** hex-lab.io