Postdoctoral Researcher - Deep Learning in 3D Facial Modelling & Animation

Applications are invited for a Postdoctoral Researcher to undertake research in the area of Deep Learning in 3D Facial Modelling and Animation.

This is an excellent opportunity to join a growing team of researchers building a next-generation digital human pipeline. Creating a digital human is a highly technical and craft driven process that can take months to complete. This project aims to reduce the time-consuming manual work of face shape modelling and rigging by applying recent advances in machine learning to faithfully reconstruct textured 3D human faces from 2D imagery. The output of this research will directly impact the development of digital humans for Humain's partners, such as Microsoft, Google, HBO, Warner, and Treyarch/Activision.

Using a state-of-the-art methodology in machine learning and facial reconstruction we will in **Objective-1** develop a system to automatically create believable personalized blendshapes from one single image or scanned mesh; in **Objective-2** generate personalized production-level facial skin textures from a video or image sequence using deep learning algorithms; in **Objective-3** automatically drive and animate a 3D target avatar by an actor's 2D facial video.

The researcher will benefit from computational power and access to large high-quality facial scanning databases of stabilised meshes and textures conformed to a consistent temporal mesh. The researcher will be able to complete a Facial Action Coding training course.

Humain's team consists of long-time collaborators Professor Greg Maguire (Star Wars, Harry Potter, Avatar) and Dr. Erika Rosenberg, the world-renowned Facial Action Coding expert, visual effects industry professionals, programmers, and post-doctoral researchers. Humain's support partners include Nvidia Inception, the Machine Intelligence Garage, Audience of the Future and AWS.