

EBERHARD KARLS

UNIVERSITÄT

TÜBINGEN

- Motivation & Goal -

To learn Personalized Implicit Neural Avatars (PINA) from a sequence of monocular RGB-D video

Challenge: Only few depth observations are available, which are noisy and incomplete



Method

Implicit Neural Avatar is modeled as an implicit signed-distance field and a learned skinning field **Learned skinning field** maps the canonical points and spatial gradients into deformed space Loss function includes on-surface loss, off-surface loss and eikonal loss.





Advanced Interactive Technologies

ETHzürich



Overviews

We propose:

- A method to **fuse** partial RGB-D observations into a consistent impicit representation of animatable 3D humans
- A global optimization formulation which jointly optimizes canonical shape, perframe pose parameters and skinning weights

PINA: Learning a Personalized Implicit Neural Avatar from a Single RGB-D Video Sequence Zijian Dong* Chen Guo* Jie Song Xu Chen Andreas Geiger Otmar Hilliges









Code and more details: zj-dong.github.io/pina