

From fragments to full-body biomechanics using anatomy transfer

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The reconstruction of a complete anatomy based on fragments or partial data is a hard and tedious task.

Anatomy Transfer is a new approach to build complete 3D digital anatomies, by warping a complete reference anatomy to match partial data while respecting anatomical principles. Based on various types of data (surface scans, medical images, dimensions), it automatically produces anatomical models that complement it with plausible extrapolations. The models include mechanical parameters and data and can be simulated using biomechanical simulation software.

We present the principles of this approach and comment on its potential and limitations.