

## Scalable Fit Testing and Visualization with VitalFit Soft Avatars

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### Abstract

Predicting fit of garments is a major application of human body scanning and processing technologies. Fit prediction is particularly challenging for close-to-body garments such as intimate apparel, personal protective equipment, and wearable devices. Recent advances in measuring and modeling human soft tissues has made it possible to simulate fit more accurately, using finite element models of soft avatars. We describe a cloud computing solution for secure and scalable fit testing. It allows any number of computationally demanding soft avatar simulations to be run, from any computer. We also describe new methods for visualizing fit attributes, such as tissue compression and garment ease, and to compare different fits quantitatively.

\* <https://sensorimotor.cs.ubc.ca/pai/>