

# Preface

This book, *Advances in Applied Digital Human Modeling*, is concerned with human modeling, biomechanics, and simulation. The benefit of this area of research is to aid in the design of systems. Human modeling and simulation can reduce the need for physical prototyping and incorporate ergonomics and human factors earlier in design processes. These models provide a representation of some human aspects that can be inserted into simulations or virtual environments and facilitate prediction of safety, satisfaction, usability, performance, and sustainability. These may consider the physiological, cognitive, behavioral, emotional, and environmental aspects. The math and science provides a foundation for visualizations that can facilitate decision-making by technical experts, management, or those responsible for public policy.

Explicitly, the book contains the following subject areas:

- I. Situational Awareness, Design and Computational Modeling
- II. Virtual Reality and Simulation
- III. Applied Modeling and Simulation

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