

Digital Human Modeling with Applications

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Digital human modeling (DHM) is using computer technology to develop digital models that represent humans. There are many reasons why DHM is needed including needing a way to describe the natural variations that occur in the human population and to have a tool to understand the complex human behavior. DHM has been successfully applied in many areas including: Aerospace, Defense, Manufacturing, Farming, Medicine and Fashion. The scope of DHM extends from ergonomics, physiology to behavior and performance. It is multidimensional and can include biomechanics and the need to predict injury potential. Each application of DHM has its own unique requirements and tool sets available. There are many commercial packages that can assist the user in developing a DHM and solving the presented problem. New technologies are constantly being developed with support from government agencies such as NHTSA or NIH and international communities such as the International Society of Biomechanics. Recently there has been a push to open data resources so that researchers throughout the world can have access to high quality model data to help advance the state of the art. These resources are highly leveraged in several ongoing and new research programs to solve today's problems with DHM.