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Titolo	Modeling, simulation and visual analysis of crowds : a multidisciplinary perspective // Saad Ali [and three others], editors
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Collana	The International Series in Video Computing, , 1571-5205 ; ; 11
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Soggetti	Computer science Computer simulation Computer vision Human behavior Crowds
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Modeling, Simulation and Visual Analysis of Crowds: A Multidisciplinary Perspective -- On Force-based Modeling of Pedestrian Dynamics -- Connection between Microscopic and Macroscopic Models -- Analysis of Crowd Dynamics with Laboratory Experiments -- Modeling a Crowd of Groups: Multidisciplinary and Methodological Challenges -- Scalable Solutions for Simulating, Animating, and Rendering Real-Time Crowds of Diverse Virtual Humans -- Authoring Multi-Actor Behaviors in Crowds with Diverse Personalities -- Virtual Tawaf: A Velocity-space-based Solution for Simulating Heterogeneous Behavior in Dense Crowds -- Crowd Flow Segmentation using Lagrangian Particle Dynamics -- Modeling Crowd Flow for Video Analysis of Crowded Scenes -- Pedestrian Interaction in Tracking: The Social Force Model and Global Optimization Methods -- Surveillance of Crowded Environments: Modeling the Crowd by its Global Properties -- Inferring Leadership from Group Dynamics Using Markov Chain Monte Carlo Methods -- Crowd Counting and Profiling: Methodology and Evaluation -- Anomaly Detection in Crowded Scenes: A Novel Framework based on Swarm Optimization and Social Force Modeling.
Sommario/riassunto	Over the last several years there has been a growing interest in

developing computational methodologies for modeling and analyzing movements and behaviors of 'crowds' of people. This interest spans several scientific areas that includes Computer Vision, Computer Graphics, and Pedestrian Evacuation Dynamics. Despite the fact that these different scientific fields are trying to model the same physical entity (i.e. a crowd of people), research ideas have evolved independently. As a result each discipline has developed techniques and perspectives that are characteristically their own. The goal of this book is to provide the readers a comprehensive map towards the common goal of better analyzing and synthesizing the pedestrian movement in dense, heterogeneous crowds. The book is organized into different parts that consolidate various aspects of research towards this common goal, namely the modeling, simulation, and visual analysis of crowds. Through this book, readers will see the common ideas and vision as well as the different challenges and techniques, that will stimulate novel approaches to fully grasping "crowds."
