Preface

It is with great pleasure that we present these Proceedings of the 1997 IEEE Workshop on Nonrigid and Articulated Motion. This workshop is a follow-up to the 1994 IEEE Workshop on Motion of Non-Rigid and Articulated Objects organized by J. K. Aggarwal and T. S. Huang in Austin. With this workshop we are attempting to foster dialogue and debate through invited talks, panels and contributed papers on many aspects of nonrigid and articulated motion. A unique aspect of this workshop is the inclusion of papers on nonrigid and articulated motion covering both analysis and synthesis.

The topics of the accepted papers encompass computer vision techniques for human motion analysis and understanding, methods for object segmentation, computer graphics methods for modeling and animation of articulated objects, and medical image analysis techniques. The above topics, even though they do not cover all aspects of nonrigid and articulated motion, clearly demonstrate a growing interest in this area. We expect that in the years to come this interest will accelerate and new theories and methods will be developed which will allow the efficient solution of difficult open problems in computer vision, graphics and medical image analysis. Among the exciting applications of these new methods will be the tracking and understanding of actions by multiple humans, the real-time prediction and interpretation of atmospheric processes for meteorology applications, the real-time animation, control and behavior modeling of living organisms, the modeling and motion analysis of internal organs, the development of surgical simulators, and the assessment of athlete fitness from video input.

The call for papers generated widespread interest and we received papers from all over the world. The papers accepted for presentation at the Workshop went through a thorough reviewing process. Each paper was reviewed by at least two members of the program committee. The Program Committee consisted of 41 members from various research groups. The reviewing process was blind in order to avoid reviewing biases as much as possible. Based on the reviewers recommendations, 14 papers were accepted for inclusion in the proceedings. These papers in conjunction with the two invited talks and the panel should spark discussions on most open research problems in nonrigid and articulated motion analysis and synthesis.

We would like to thank J.K. Aggarwal and N. I. Badler, the General Chairs, and the Program Committee for their hard work. We would also like to thank the IEEE Computer Society and its Technical Committee on Pattern Analysis and Machine Intelligence for sponsoring this workshop, and the IEEE Computer Society staff and the organizers of CVPR'97 for their help. Special thanks also go to Ioannis Kakadiaris, the Publications Chair, for all his hard work and useful suggestions.

Welcome to the IEEE Workshop on Nonrigid and Articulated Motion and to Puerto Rico. We hope this will be an exciting meeting.

Dimitris Metaxas
University of Pennsylvania
Philadelphia, PA

Irfan Essa
Georgia Institute of Technology
Atlanta, GA