

Lecture Notes in Artificial Intelligence 5085

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Gesture-Based Human-Computer Interaction and Simulation

7th International Gesture Workshop, GW 2007
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Revised Selected Papers

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Preface

The International Gesture Workshop is an interdisciplinary event where researchers working on human gesture-based communication present advanced research currently in progress and exchange ideas on gesture across multidisciplinary scientific disciplines. This workshop encompasses all fundamental aspects of gestural studies in the field of human–computer interaction and simulation, including all multifaceted issues of modelling, analysis and synthesis of human gesture, encompassing hand and body gestures and facial expressions. A focus of these events is a shared interest in using gesture in the context of sign language analysis, understanding and synthesis. Another stream of interest is the user-centric approach of considering gesture in multimodal human–computer interaction, in the framework of the integration of such interaction into the natural environment of users. In addition to welcoming submission of work by established researchers, it is the tradition of the GW series of workshops to encourage submission of student work at various stages of completion, enabling a broader dissemination of finished or on-going novel work and the exchange of experiences in a multidisciplinary environment.

Gesture Workshop 2007 (GW 2007) was the 7th European Gesture Workshop in the GW series initiated in 1996. Since that date, the Gesture Workshops have been held roughly every second year, with fully reviewed proceedings typically published by Springer. GW 2007 was organized by ADETTI at ISCITE-Lisbon University Institute, during May 23–25, 2007. In GW 2007, from the 53 contributions that were received, 15 high-quality full papers were accepted, along with 16 short papers and 10 posters and demos, showing on-going promising gesture research. Two brilliant keynote speakers honored the event with their presentations. Andrew Wilson, member of the Adaptive Systems and Interaction group at Microsoft Research, Redmond, USA, explored gesture recognition from video and other sensors in machine learning and human–computer interaction frameworks, specially oriented to table-top, surface and ubiquitous computing. Joaquim Jorge, Full Professor of Computer Science at Instituto Superior Técnico (IST/UTL), and head of Intelligent Multimodal Interfaces Group at INESC, Lisbon, Portugal, described how gesture can be used for sketch-based and multimodal human–computer interfaces.

This book is a revised selection of papers presented at Gesture Workshop 2007, containing 20 full papers and 10 short papers, offering the most recent advances in gesture research and its application to human–computer interaction and simulation. The book covers all core topics of gesture studies, organized in eight sections of the following thematic areas:

- Analysis and Synthesis of Gesture
- Theoretical Aspects of Gestural Communication and Interaction
- Vision-Based Gesture Recognition
- Sign Language Processing
- Gesturing with Tangible Interfaces and in Virtual and Augmented Reality

- Gesture for Music and Performing Arts
- Gesture for Therapy and Rehabilitation
- Gesture in Mobile Computing and Usability Studies

The GW2007 workshop was organized by ADETTI and supported by a number of institutions, namely, ISCTE, the Lisbon University Institute, FCT, the Foundation for Science and Technology of the Ministry of Science and Higher Education, the Portuguese Group of Computer Graphics – Eurographics Portuguese Chapter, and the City Hall of Lisbon. The submission procedures were managed by Openconf, by the Zakon Group.

The editors would like to express their thanks and appreciation to the Local Organizing Committee, particularly Ana Rita Leitão from ADETTI, who was the mastermind behind all the logistical aspects of the organization of GW2007, including the website design (www.adett.iscte.pt/events/GW2007/), the submission procedure and most of the workshop local organization activities, with the close aid of Rafael Bastos also from ADETTI, Ricardo Jota, from IST/Technical University of Lisbon, the Poster and Demo Chair, and Jean-François Kamp, from VALORIA, University of Bretagne Sud, who helped in the organization of GW 2007 with his prior GW 2005 experience. Our thanks to Nelson Carvalho from ADETTI, for the creation of the logo of this volume.

Finally, the editors would like to thank to the contributing authors of this book, for their high-level scientific work, as well as the panel of international reviewers. Their valuable feedback and recommendations helped the authors in creating this volume as a state-of-the-art reference for researchers and academics interested in all aspects of gesture studies.

October 2008

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Table of Contents

Analysis and Synthesis of Gesture

Gesture Recognition Based on Elastic Deformation Energies	1
<i>Radu-Daniel Vatavu, Laurent Grisoni, and Stefan-Gheorghe Pentiu</i>	
Approximation of Curvature and Velocity for Gesture Segmentation and Synthesis	13
<i>Sylvie Gibet and Pierre-François Marteau</i>	
Motion Primitives and Probabilistic Edit Distance for Action Recognition	24
<i>Preben Fihl, Michael B. Holte, and Thomas B. Moeslund</i>	

Theoretical Aspects of Gestural Communication and Interaction

On the Parametrization of Clapping	36
<i>Herwin van Welbergen and Zsófia Ruttkay</i>	
Improving the Believability of Virtual Characters Using Qualitative Gesture Analysis	48
<i>Barbara Mazzarino, Manuel Peinado, Ronan Boulic, Gualtiero Volpe, and Marcelo M. Wanderley</i>	
A Method for Selection of Optimal Hand Gesture Vocabularies	57
<i>Helman Stern, Juan Wachs, and Yael Edan</i>	

Vision-Based Gesture Recognition

Person-Independent 3D Sign Language Recognition	69
<i>Jeroen F. Lichtenauer, Gineke A. ten Holt, Marcel J.T. Reinders, and Emile A. Hendriks</i>	
Skin Color Profile Capture for Scale and Rotation Invariant Hand Gesture Recognition	81
<i>Rafael Bastos and Miguel Sales Dias</i>	
Robust Tracking for Processing of Videos of Communication's Gestures	93
<i>Frédérick Gianni, Christophe Collet, and Patrice Dalle</i>	
Representation of Human Postures for Vision-Based Gesture Recognition in Real-Time	102
<i>Antoni Jaume-i-Capó, Javier Varona, and Francisco J. Perales</i>	

Enhancing a Sign Language Translation System with Vision-Based Features	108
<i>Philippe Drew, Daniel Stein, and Hermann Ney</i>	

Sign Language Processing

Generating Data for Signer Adaptation	114
<i>Chunli Wang, Xilin Chen, and Wen Gao</i>	
A Qualitative and Quantitative Characterisation of Style in Sign Language Gestures	122
<i>Alexis Heloir and Sylvie Gibet</i>	
Sequential Belief-Based Fusion of Manual and Non-manual Information for Recognizing Isolated Signs	134
<i>Oya Aran, Thomas Burger, Alice Caplier, and Lale Akarun</i>	
Gesture Modelling for Linguistic Purposes	145
<i>Guillaume J.-L. Olivrin</i>	

Gesturing with Tangible Interfaces and in Virtual and Augmented Reality

Automatic Classification of Expressive Hand Gestures on Tangible Acoustic Interfaces According to Laban's Theory of Effort	151
<i>Antonio Camurri, Corrado Canepa, Simone Ghisio, and Gualtiero Volpe</i>	
Implementing Distinctive Behavior for Conversational Agents	163
<i>Maurizio Mancini and Catherine Pelachaud</i>	
Using Hand Gesture and Speech in a Multimodal Augmented Reality Environment	175
<i>Miguel Sales Dias, Rafael Bastos, João Fernandes, João Tavares, and Pedro Santos</i>	
A Virtual Reality-Based Framework for Experiments on Perception of Manual Gestures	181
<i>Sebastian Ullrich, Jakob T. Valvoda, Marc Wolter, Gisela Fehrmann, Isa Werth, Ludwig Jaeger, and Torsten Kuhlen</i>	
Processing Iconic Gestures in a Multimodal Virtual Construction Environment	187
<i>Christian Fröhlich, Peter Biermann, Marc E. Latoschik, and Ipke Wachsmuth</i>	
Analysis of Emotional Gestures for the Generation of Expressive Copying Behaviour in an Embodied Agent	193
<i>Ginevra Castellano and Maurizio Mancini</i>	

Gestures to Intuitively Control Large Displays	199
<i>Wim Fikkert, Paul van der Vet, Han Rauwerda, Timo Breit, and Anton Nijholt</i>	

Gesture for Music and Performing Arts

Geometry and Effort in Gestural Renderings of Musical Sound	205
<i>Rolf Inge Godøy</i>	
String Bowing Gestures at Varying Bow Stroke Frequencies: A Case Study	216
<i>Nicolas Rasamimanana, Delphine Bernardin, Marcelo Wanderley, and Frédéric Bevilacqua</i>	
Gesture Control of Sound Spatialization for Live Musical Performance	227
<i>Mark T. Marshall, Joseph Malloch, and Marcelo M. Wanderley</i>	
Validation of an Algorithm for Segmentation of Full-Body Movement Sequences by Perception: A Pilot Experiment	239
<i>Donald Glowinski, Antonio Camurri, Carlo Chiorri, Barbara Mazzarino, and Gualtiero Volpe</i>	

Gesture for Therapy and Rehabilitation

Signs Workshop: The Importance of Natural Gestures in the Promotion of Early Communication Skills of Children with Developmental Disabilities	245
<i>Ana Margarida P. Almeida, Teresa Condeço, Fernando Ramos, Álvaro Sousa, Luísa Cotrim, Sofia Macedo, and Miguel Palha</i>	
The Ergonomic Analysis of the Workplace of Physically Disabled Individuals	255
<i>Matthieu Aubry, Frédéric Julliard, and Sylvie Gibet</i>	

Gesture in Mobile Computing and Usability Studies

Mnemonic Body Shortcuts for Interacting with Mobile Devices	261
<i>Tiago Guerreiro, Ricardo Gamboa, and Joaquim Jorge</i>	
The Effects of the Gesture Viewpoint on the Students' Memory of Words and Stories	272
<i>Giorgio Merola</i>	
Author Index	283