



## Second International Conference on Automatic Face and Gesture Recognition '96

Oct 13-16, 1996, Killington, Vermont, USA

Sponsored by The Media Laboratory, Massachusetts Institute of Technology

In Cooperation with IEEE Computer Society and thePAMI-TC

Sunday October 13, 1996

6:00pm - 7:00pm	<b>Registration &amp; Welcome Reception</b> (Mountain View Room)
8:00pm - 10:00pm	<b>SET UP of DEMOS.</b> (Exhibit Hall)

### Monday October 14, 1996 (Snowshed Ballroom)

7:30am - 8:30am	<b>Breakfast</b> (Chandelier Room)
8:30am - 8:40am	<b>Welcome</b> Irfan Essa, Alex Pentland
8:40am - 9:40am	<b>Invited Speaker</b> David Stork / Ricoh CRC & Stanford University Session Chair: Alex Pentland / MIT Media Lab Title: <u>Speechreading: An overview of image processing, feature extraction, sensory integration and pattern recognition techniques</u> by David G. Stork and Marcus E. Hennecke
9:40am - 10:00am	<b>Coffee/Tea/Drinks Break</b>
10:00am - 11:20am	<b>Paper Session #1: Facial Analysis</b> Session Chair: Martin Bichsel / U of Zurich <u>Manifold Caricatures: On the Psychological Consistency of Computer Face Recognition</u> Nicholas Costen, Ian Craw, Takashi Kato, Graham Robertson, Shigeru Akamatsu ATR Human Information Processing Laboratory / JAPAN <u>Face Distinctiveness in Recognition Across Viewpoint: An Analysis of the Statistical Structure of Face Spaces</u> Alice O'Toole, Shimon Edelman University of Texas at Dallas / USA <u>A Probabilistic Framework for Perceptual Grouping of Features for Human Face Detection</u> Kin Choong Yow, Roberto Cipolla University of Cambridge / UK <u>Learning Novel Views to a Single Face Image</u> Thomas Vetter Max-Planck-Institut fur biologische Kybernetik / GERMANY
11:20am - 12:00noon	<b>Invited Speaker</b> Thomas Huang / UIUC Session Chair: Irfan Essa / Georgia Tech Title: <u>Gestural Interface to a Visual Computing Environment for Molecular Biologists</u> Vladimir I. Pavlovic, Rajeev Sharma, Thomas S. Huang
12:00noon - 1:15pm	<b>Lunch</b> (Chandelier Room)
1:15pm - 2:15pm	<b>Paper Session #2: Tracking Articulated Objects</b> Chair: Aaron Bobick / MIT Media Lab

	<u>Cardboard People: A Parameterized Model of Articulated Image Motion</u> Shanon X. Ju, Michael J. Black, Yaser Yacoob University of Toronto / CANADA <u>Recognizing Articulated Objects with Integration by Parts</u> Davi Geiger, Tyng-Luh Liu Courant Institute, New York University / USA <u>Pfinder: Real-Time Tracking of the Human Body</u> Christopher Wren, Ali Azarbayejani, Trevor Darrell, Alex Pentland MIT Media Lab., Perpetual Computing Section / USA
2:15pm - 3:15pm	<b>Panel Session #1: Human Computer Interfaces and Computational Perception - vision, touch, speech.</b> Moderators: Larry Davis / U of Maryland & Irfan Essa / Georgia Tech
3:15pm - 4:40pm	<b>Poster Session #1 and Demos Session</b> (Exhibit Hall)
4:40pm - 6:00pm	<b>Paper Session #3: Dynamics &amp; Learning for Gesture Interpretation</b> Chair: John Weng / Michigan State University <u>Dynamical System Representation, Generation, and Recognition of Basic Oscillatory Motion Gestures</u> Charles J. Cohen, Lynn Conway, Dan Koditschek University of Michigan / USA <u>Recovering the Temporal Structure of Natural Gesture</u> Andrew Wilson, Aaron F. Bobick, Justine Cassell MIT Media Lab, Perpetual Computing Section <u>A Proposal of Pattern Space Trajectory for Gesture Spotting Recognition</u> Shigeki Nagaya, Susumu Seki, Ryuichi Oka Tsukuba Research Center / JAPAN <u>Inductive Learning in Hand Pose Recognition</u> Francis Quek, Meide Zhao Vision Interfaces and Systems Lab. (VISLab) / USA
7:30pm - 9:30pm	<b>Dinner</b> (Chandelier Room)

### Tuesday October 15, 1996 (Snowshed Ballroom)

7:30am - 8:30am	<b>Breakfast</b> (Chandelier Room)
8:30am - 8:40am	<b>Information</b> Irfan Essa
8:40am - 9:40am	<b>Invited Speakers</b> Justine Cassell/MIT Media Lab & David McNeill/U of Chicago Session Chair: Alex Pentland / MIT Media Lab. Title: <u>What you need to know about spontaneous gesture, and why you need to know it</u>
9:40am - 10:00am	<b>Coffee/Tea/Drinks Break</b>
10:00am - 11:20am	<b>Paper Session #4: Systems for HCI</b> Chair: M. Black <u>Multi-Modal System for Locating Heads and Faces</u> Hans Peter Graf, Eric Cosatto, Dave Gibbon, Michael Kocheisen, Eric Petajan AT&T Bell Laboratories / USA <u>Understanding Manipulation in Video</u> Matthew Brand MIT Media Lab / USA <u>Computer Vision for Computer Games</u> William T. Freeman, K. Tanaka, J. Ohta, K. Kyuma Mitsubishi Electric Research Laboratories, Inc. / USA

	<i>Coordination of Perceptual Processes for Computer Mediated Communication</i> Joelle Coutaz, Francois Berard, James Crowley CLIPS-IMAG / FRANCE
11:20am- 12:00noon	<b>Invited Speaker</b> Alex Pentland / MIT Media Lab Session Chair: Irfan Essa / Georgia Tech Title: <i>Trends in Understanding and Perception of Humans.</i>
12:00noon - 1:15pm	<b>Lunch (Chandelier Room)</b>
1:15pm - 2:15pm	<b>Paper Session #5</b> : Facial Analysis and Synthesis Chair: Shimon Edelman / Weizmann Institute <i>Example-Based Image Analysis and Synthesis for Faces</i> Tony Ezzat, Tomaso Poggio MIT Artificial Intelligence Laboratory / USA <i>Eigen-Points: Control-Point Location using Principal Component Analyses</i> Michele Covell, Christoph Bregler Interval Research Corporation / USA <i>Automatic Interpolation and Recognition of Face Images by Morphing</i> Martin Bichsel University of Zurich / SWITZERLAND
2:15pm - 3:15pm	<b>Panel Session #2:</b> Face Recognition: Where are we now and where are we going? Moderator: Jonathon Philips / US Army Research Laboratories Panelists: Rama Chellappa / U. of Maryland Alex Pentland / MIT Chris Taylor / U. of Manchester
3:15pm - 4:40pm	<b>Posters Session #2 and Demos Session (Exhibit Hall)</b>
4:40pm - 6:00pm	<b>Paper Session #6:</b> Deformable Models and Gesture Recognition Chair: Kenji Mase / ATR <i>Towards 3D Hand Tracking Using a Deformable Model</i> Tony Heap, David Hogg University of Leeds / UK <i>Deformable Model-based Face Shape and Motion Estimation</i> Dimitri Metaxas, Douglas DeCarlo University of Pennsylvania / USA <i>Toward the use of Gesture in Traditional User Interfaces</i> Rick Kjeldsen, John Kender IBM T.J. Watson Research Center / USA <i>Invariant Features for 3D Gesture Recognition</i> Lee Campbell, David A. Becker, Ali Azarbayejani, Aaron F. Bobick, Alex Pentland MIT Media Laboratory, Perceptual Computing Section. / USA
7:30pm - 9:30pm	<b>Conference Banquet (Mountain View Room)</b>

**Wednesday October 16, 1996 (Snowshed Ballroom)**

7:30am - 8:30am	<b>Breakfast</b>
8:40am - 10:00am	<b>Paper Session #7</b> Chair: Chris Taylor / Manchester U/ Session Name: Face and Gesture Classification, Tracking and Recognition <i>Face and Hand Gesture Recognition Using Hybrid Classifiers</i> Harry Wechsler, Srinivas Gutta, Jeffrey Huang, Ibrahim F. Imam George Mason University / USA <i>Robust Classification of Hand Postures Against Complex Backgrounds</i>

	Jochen Triesch, Christoph von der Malsburg Ruhr-Universitat Bochum / GERMANY <i>Tracking and Learning Graphs and Pose on Image Sequences of Faces</i> Thomas Maurer, Christoph von der Malsburg Ruhr-Universitat Bochum / GERMANY <i>Comparison of Visible and Infra-Red Imagery for Face Recognition</i> Joseph Wilder, P. Jonathon Phillips, Cunhong Jiang, Stephen Wiener Rutgers University / USA
10:00am - 10:15am	<b>Coffee/Tea/Drinks Break</b>
10:15am- 11:15noon	<b>Panel Session # 3:</b> Better Frameworks for Face and Gesture Recognition Moderator: Peter Stucki / U of Zurich Title: Participants: TBA
11:15am - 12:15am	<b>Paper Session #8:</b> Face Detection & Recognition Chair: Harry Wechsler, George Mason U <i>Discriminant Analysis and Eigenspace Partition Tree for Face and Object Recognition from Views</i> John J. Weng, Daniel L. Swets Michigan State University / USA <i>Information Theoretic View-Based and Modular Face Detection</i> Michael S. Lew Leiden University / NETHERLANDS <i>Locating Faces Using Statistical Feature Detectors</i> T.F. Cootes, C.J. Taylor University of Manchester / UK
12:20noon - 1:30pm	<b>Closing &amp; Lunch (Chandelier Room)</b>

**Poster Session #1: 3:15pm - 4:40pm. Monday, October 14, 1996**

#	Paper Title
P-01	<u>Edge and Keypoint Detection in Facial Regions</u> R. Herpers, M. Michaelis, K.H. Lichtenauer, G. Sommer GSF-Institut für Medizinische Informatik und Systemforschung / GERMANY
P-02	<u>Visual Filters for Face Recognition</u> Barnabas Takacs, Harry Wechsler George Mason University / USA
P-03	<u>Toward Unconstrained Face Recognition from Image Sequences</u> A. Jonathan Howell, Hilary Buxton University of Sussex at Brighton / UK
P-04	<u>Facial Feature Location in Image Sequences Using Neural Networks</u> Marcel Reinders, R.W.C. Koch, J.J. Gerbrands Delft University of Technology / NETHERLANDS
P-05	<u>Segmentation and Tracking of Faces in Color Images</u> Karin Sobottka, Ioannis Pitas Aristotle University of Thessaloniki / GREECE
P-06	<u>Computing 3-D Head Orientation from a Monocular Image Sequence</u> Thanarat Horprasert, Yaser Yacoob, Larry S. Davis University of Maryland at College Park / USA
P-07	<u>Detection of Human Faces Using Decision Trees</u> Harry Wechsler, Srinivas Gutta, Jeffrey Huang George Mason University / USA
P-08	<u>Happy Patrons Make Better Tipsters: Creating a Robot Waiter Using Perseus and the Animate Agent Architecture</u> David Franklin, Roger E. Kahn, Michael J. Swain, R. James Firby University of Chicago / USA
P-09	<u>Hand Sign Recognition from Intensity Image Sequences with Complex Backgrounds</u> John J. Weng, Yuntao Cui Michigan State University / USA
P-10	<u>An Investigation into Face Pose Distributions</u> Shaogang Gong, Stephen McKenna, John J. Collins Queen Mary and Westfield College London / UK
P-11	<u>Tracking Faces</u> Stephen McKenna, Shaogang Gong Queen Mary and Westfield College, London / UK
P-12	<u>Adaptive Automatic Facial Feature Segmentation</u> Hasan Demirel, Thomas J. Clarke, Peter Y.K. Cheung University of London / UK
P-13	<u>LISTEN: A System for Locating and Tracking Individual Speakers</u> Michel Collobert, R. Feraud, G. Le Tourneur, O. Bernier, J.E. Viallet, Y. Mahieux, D. Collobert Groupe Techniques Neuromimetiques pour les Telecommunications / FRANCE
P-14	<u>Recognition of Social Dancing from Auditory and Visual Information</u> Koh Kakusho, Noboru Babaguchi, Tadahiro Kitahashi Osaka University / JAPAN
P-15	<u>Detection of Human Faces under Scale, Orientation and Viewpoint Variations</u> Kin Choong Yow, Roberto Cipolla University of Cambridge / UK

**Poster Session #2: 3:15pm - 4:40pm. Tuesday, October 15, 1996**

#	Paper Title
P-16	<u>From 2D Images to 3D Face Geometry</u> Richard Lengagne, Jean-Philippe Tarel, Olivier Monga INRIA Rocquencourt / FRANCE
P-17	<u>Maximum Likelihood Face Detection</u> Antonio J. Colmenarez, Thomas S. Huang University of Illinois at Urbana-Champaign / USA
P-18	<u>Finding Skin In Color Images</u> Rick Kjeldsen, John Kender IBM T.J. Watson Research Center / USA
P-19	<u>Spotting Recognition of Human Gestures from Time-Varying Images</u> Takuichi Nishimura, Ryuichi Oka Tsukuba Research Center / JAPAN
P-20	<u>Real-Time Hand -Arm Movement Analysis Using a Single Video Camera</u> Hermann Hienz, Kirsti Grobel, Georg Offner Aachen University of Technology / GERMANY
P-21	<u>Statistical Models of Face Images: Recent Advances</u> G.J. Edwards, A. Lanitis, C.J. Taylor, T.F. Cootes University of Manchester / UK
P-22	<u>Face Detection Using Local Maxima</u> Roel Hoogenboom, Michael Lew University of Leiden / NETHERLANDS
P-23	<u>Real-Time Facial Motion Analysis for Virtual Teleconferencing</u> David Machin BT Laboratories / UK
P-24	<u>Face and Facial Feature Extraction from Color Image</u> Haiyuan Wu, Taro Yokoyama, Dadet Pramadihanto, Masahiko Yachida Osaka University / JAPAN
P-25	<u>Real-Time Visual Recognition of Facial Gestures for Human Computer Interaction</u> Alexander Zelinsky, Jochen Heinzmann University of Wollongong / AUSTRALIA
P-26	<u>Robust Face Feature Analysis for Automatic Speechreading &amp; Character Animation</u> Eric Petajan, Hans Peter Graf Bell Laboratories / USA
P-27	<u>Automatic Spoken Affect Analysis and Classification</u> Deb Roy, Alex Pentland MIT Media Laboratory, Perceptual Computing Section / USA
P-28	<u>Visual Interaction With Lifelike Characters</u> Matthew Turk Vision Technology Group, Microsoft Corporation / USA
P-29	<u>Pose Initialization via Non-Parametric Estimation Techniques</u> Sourabh Niyogi, William T. Freeman MIT Department of Electrical Engineering / USA
P-30	<u>Toward Robust Skin Identification in Video Images</u> David Saxe, Richard Foulds University of Delaware/A.I. duPont Institute / USA

**Demo Sessions: 3:15pm - 4:40pm. Monday, Oct 14 & Tuesday, Oct 15, 1996**

**TBD.**