

BANQUET KEYNOTE TALK

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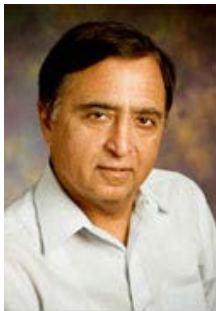
The Four Decades of Computer Vision

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Abstract

We will review selected themes and results that have characterized computer vision research over the past four decades. Emphases have been changing not only with respect to the areas and problems addressed, but also in relatively basic objectives and approaches taken. Starting with the early days of image processing, we will summarize activities involving image analysis, remote and short range images, video analysis, 3D estimation, computer vs human vision, role of image synthesis, perception-action-loop and robotics, active vision, physics based vision, computational photography, object recognition, model vs data driven methods, visual learning, and vision in IoT. This range of major activities reinforces the view that computer vision is an extremely diverse and challenging field. New areas and problems have been emerging faster than they can be solved, which in part explains the dramatic and continuing growth of the field.



Speaker Bio-Sketch: Narendra Ahuja is Research Professor in the Dept. of Electrical and Computer Engineering, Beckman Institute, and Coordinated Science Laboratory, University of Illinois at Urbana-Champaign (<http://vision.ai.illinois.edu/ahuja.html>) and the Founding Director of Information Technology Research Academy (<http://itra.medialabasia.in>), Government of India. He received B.E. with honors in electronics engineering from BITS, Pilani, India, M.E. with distinction in electrical communication engineering from IISc, Bangalore, India, and Ph.D. in computer science from University of Maryland, College Park, USA. In 1979, he joined UIUC where he was Donald Biggar Willet Professor of Engineering until 2012. During 1999-2002, he served

as the Founding Director of International Institute of Information Technology, Hyderabad (IIITH), first of now about 24 IIITs. He has co-authored three books and over 400 papers in journals and conferences, and received 4 patents. He has supervised research of about 50 PhD, 15 MS and 100 Undergrad students and 10 Postdocs. His algorithms/prototype systems have been used by about a dozen companies/organizations, including industrial systems at General Electric, Westinghouse, Lockheed and Honeywell. He is a fellow of IEEE, American Association for Artificial Intelligence, International Association for Pattern Recognition, Association for Computing Machinery, American Association for the Advancement of Science, and International Society for Optical Engineering. He received the Emanuel R. Piore award of the IEEE, and the Technology Achievement Award of the International Society for Optical Engineering, and TA Stewart-Dyer/Frederick Harvey Trevithick Prize of the Institution of Mechanical Engineers, and was conferred an Honorary Doctorate from York University, England (2018). With his students, he shared Best Paper Awards given by: International Conference on Pattern Recognition (Piero Zamperoni Award), Symposium on Eye Tracking Research and Applications, First IEEE International Workshop on Computer Vision in Sports, International Conference on Pattern Recognition, and IEEE Transaction on Multimedia.