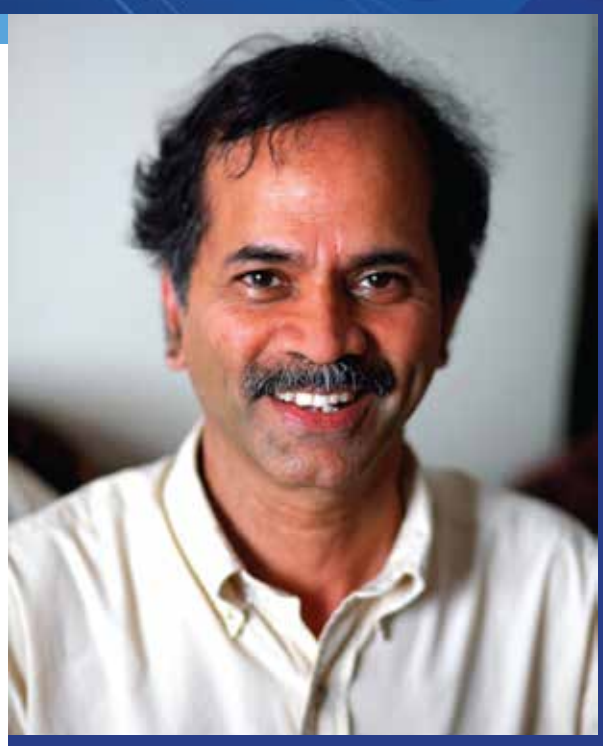
香港浸會大學
HONG KONG BAPTIST UNIVERSITY
計算機科學系
Department of Computer Science

Department of Computer Science

Distinguished Lecture Series 2014/15

Is Computer Vision Pattern Recognition by a Different Name?



10:30 - 11:30am | March 26, 2015 | Thursday

RRS905, Sir Run Run Shaw Building, Ho Sin Hang Campus

Prof. Rama Chellappa

Minta Martin Professor of Engineering
University of Maryland, College Park, MD, USA

Abstract

As someone who has been working in computer vision and pattern recognition for over three decades, I have watched with interest how most existing efforts in computer vision are based on pattern recognition methodologies. More and more, the algorithms take the form, data (image, video, depth, etc.), features (SIFT, Hog, LBB, attributes, dictionaries, etc.) followed by a favorite version of SVMs. This approach has generated successful algorithms such as deformable parts model for object detection, attribute-based face verification, etc. More recently, a different manifestation of pattern recognition algorithms, based on deep learning has produced best results on ImageNet and LFW data sets. While I am a devoted student of pattern recognition school from Purdue, I would like to argue that domain shifts due to illumination and pose variations, blur and resolution as well as occlusion will require the incorporation of models and geometry to realize generalizations across data and help design robust systems. I call for a balanced approach that effectively combines imaging and geometric models and data for reaping long term gains.

Biography

Prof. Rama Chellappa received the B.E. (Hons.) degree in Electronics and Communication Engineering from the University of Madras, India in 1975 and the M.E. (with Distinction) degree from the Indian Institute of Science, Bangalore, India in 1977. He received the M.S.E.E. and Ph.D. Degrees in Electrical Engineering from Purdue University, West Lafayette, IN, in 1978 and 1981 respectively. During 1981-1991, he was a faculty member in the department of EE-Systems at University of Southern California (USC). Since 1991, he has been a Professor of Electrical and Computer Engineering (ECE) and an affiliate Professor of Computer Science at University of Maryland (UMD), College Park. He is also affiliated with the Center for Automation Research, the Institute for Advanced Computer Studies (Permanent Member) and is serving as the Chair of the ECE department. In 2005, he was named a Minta Martin Professor of Engineering. His current research interests are face recognition, clustering and video summarization, 3D modeling from video, image and video-based recognition of objects, events and activities, dictionary-based inference, compressive sensing, domain adaptation and hyper spectral processing.

Prof. Chellappa received an NSF Presidential Young Investigator Award, four IBM Faculty Development Awards, an Excellence in Teaching Award from the School of Engineering at USC, and two paper awards from the International Association of Pattern Recognition (IAPR). He is a recipient of the K.S. Fu Prize from IAPR. He received the Society, Technical Achievement and Meritorious Service Awards from the IEEE Signal Processing Society. He also received the Technical Achievement and Meritorious Service Awards from the IEEE Computer Society. At UMD, he was elected as a Distinguished Faculty Research Fellow, as a Distinguished Scholar-Teacher, received an Outstanding Innovator Award from the Office of Technology Commercialization, and an Outstanding GEMSTONE Mentor Award from the Honors College. He received the Outstanding Faculty Research Award and the Poole and Kent Teaching Award for Senior Faculty from the College of Engineering. In 2010, he was recognized as an Outstanding ECE by Purdue University. He is a Fellow of IEEE, IAPR, OSA and AAAS. He holds four patents.

Prof. Chellappa served as the Editor-in-Chief of IEEE Transactions on Pattern Analysis and Machine Intelligence. He has served as a General and Technical Program Chair for several IEEE international and national conferences and workshops. He is a Golden Core Member of the IEEE Computer Society and served as a Distinguished Lecturer of the IEEE Signal Processing Society. Recently, he completed a two-year term as the President of the IEEE Biometrics Council.

Enquiry

Tel: 3411-2385
Email: comp@comp.hkbu.edu.hk
Website: http://www.comp.hkbu.edu.hk/dlecture/