



UNIVERSITY OF CENTRAL FLORIDA
CENTER FOR RESEARCH IN COMPUTER VISION

Dr. Josef Kittler

University of Surrey, United Kingdom

**“Anomaly detection in machine perception”
Wednesday, January 15, 2014 · 2:00PM · HEC 101**



ABSTRACT

Machine perception systems are invariably complex. They involve multiple sensing modalities, many levels of representation, and hierarchical world models. The process of sensor(y) data interpretation typically engages a multitude of decision making mechanisms which successively convert sensor signals to symbols with a view of deriving full understanding of the input data. An essential function of machine perception is anomaly detection. Recently there has been considerable interest in developing sophisticated mechanisms of anomaly detection, aiming to emulate more closely the human perception system in its ability to distinguish nuances of anomaly. In addition to the conventional outlier detection, they include classifier incongruence detection, data quality assessment, distribution drift detection, and decision confidence assessment. Examples of the application of these anomaly detection mechanisms to the problem of novel object category detection, and sports video analysis will be presented.

BIOGRAPHY

Professor Josef Kittler FEng heads the Department of Electronics in the Faculty of Engineering and Physical Sciences. He received his BA, PhD and DSc degrees from the University of Cambridge. He joined the University of Surrey in 1986, after spending 5 years with EPSRC Rutherford Appleton Laboratory, and before that, conducting research on personal fellowships at Cambridge, Oxford, Southampton, and ENST Paris. He founded the Centre for Vision, Speech and Signal Processing, which now has over 100 researchers. He teaches and conducts research in Signal Processing and Machine Intelligence, with a focus on Biometrics, and Cognitive Vision. He published a Prentice Hall textbook on Pattern Recognition: A Statistical Approach, and more than 700 scientific papers. He is Series Editor of Springer Lecture Notes on Computer Science. He served as President of the International Association for Pattern Recognition 1994-1996. In 2006 he was awarded the KS Fu Prize from the International Association, for outstanding contributions to pattern recognition. He received Honorary Doctorates from the University of Lappeenranta in 1999 and the Czech Technical University in Prague in 2007. In 2008 he was awarded the IET Faraday Medal and in 2009 he became EURASIP Fellow. He is a co-founder of OmniPerception Ltd.