



ABSTRACT

Title: Activities at Centre for Vision, Speech and Signal Processing (CVSSP)

Date: 3 Feb 2010

Time: 3pm

Abstract:

This talk gives an overview of the research activities at CVSSP, University of Surrey. The talk was prepared by our centre director. Prof. Josef Kittler. By presenting our research activities, I hope we can better identify potential areas of collaboration.

This talk is not technical and is accessible to all.

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Title: Data Quality Dependent Decision Making in Pattern Classification

Date: 5 Feb 2010

Time: 3pm

Abstract:

Sensory information acquired by pattern recognition systems is invariably subject to environmental and sensing conditions, which may change over time. This may have a significant negative impact on the performance of pattern recognition algorithms. In the past, these problems have been tackled by building in invariance to the various changes, by adaptation and by multiple expert systems. More recently, the possibility of enhancing the pattern classification system robustness by using auxiliary information has been explored. In particular, by measuring the extent of degradation, the resulting sensory data quality information can be used with advantage to combat the effect of the degradation phenomena. This can be achieved by using the auxiliary quality information as features in the fusion stage of a multiple classifier system which uses the discriminant function values from the first stage as inputs. Data quality can be measured directly from the sensory data. Different architectures have been suggested for decision making using quality information. Examples of these architectures are presented and their relative merits discussed. The problems and benefits associated with the use of auxiliary information in sensory data analysis are illustrated on the problem of personal identity verification in biometrics.

Further reading:

http://info.ee.surrey.ac.uk/Personal/Norman.Poh/data/norman_xdevice_double.pdf

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About the speaker:

Norman Poh is a research fellow at CVSSP since 2006, after having completed the Ph.D. degree in computer science conferred by the Swiss Federal Institute of Technology in Lausanne (EPFL). He is one of the work-package leaders in the EU-funded Mobile Biometry (MOBIO) project, responsible for designing adaptive multimodal biometric systems. His areas of interest are pattern recognition, video processing, biometric authentication, and information fusion. He was the recipient of three best paper awards (AVBPA'05, ICB'09 and Pattern Recognition Journal, 2006) and two personal research grants from the Swiss National Science Foundation.

Dr. Poh is open to any potential research collaboration. His last day of visit at this centre is 5 Feb.