

Tutorial Proposal for ICB2015

Remote, Mobile, and Wearable Video Face Recognition for Surveillance

Summary

There has been a great deal of work on face recognition technologies over at least the last 35 years including some on video based recognition. In 14 years of research we have implemented and evaluated many state-of-the-art systems, but all methods we have tested to date failed to address the pressing need for good recognition from uncontrolled low resolution image probes against uncontrolled low quality face galleries. Formal benchmarking on passport quality images often yields impressive recognition rates with virtually zero errors. Yet everyone with any experience in biometrics knows that such performance is simply unattainable in the field without enormously expensive image capture equipment. Obtaining good recognition rates is all about getting the image capture conditions absolutely perfect — and achieving this in the field is incredibly expensive.

In this tutorial we discuss the need for reliable non-cooperative video recognition for CCTV surveillance. It turns out the strong non-cooperative recognition technologies are also ideal for mobile and wearable applications. The presenter will first give a broad introduction to the field of face recognition and then concentrate on the challenging and open issues encountered when developing working non-cooperative and mobile systems. The tutorial will include live demonstrations of state-of-the-art CCTV, mobile and possibly even wearable face recognition systems that gained worldwide attention in 2014.

Biography

Professor Lovell is Director of the Advanced Surveillance Group in the School of ITEE, UQ. He was President of the International Association for Pattern Recognition (IAPR) [2008-2010], and is Fellow of the IAPR, Senior Member of the IEEE, and voting member for Australia on the Governing Board of the IAPR. He was General Co-Chair of the IEEE International Conference on Image Processing in Melbourne, 2013 and Program Co-Chair of the International Conference of Pattern Recognition in Tampa, 2008. In 2011, biometric systems developed by his research group won the IFSEC Industrial Prize for Best CCTV System (Birmingham, UK) and the APICTA Trophy for Best R&D in the Asia-Pacific Region (Phuket, Thailand). These early systems were also demonstrated to the research community during invited presentations at CVPR2011 (Colorado Springs) and IJCB2011 (Washington). His research interests include non-cooperative and mobile Face Recognition, Biometrics, Statistical Manifolds, and Pattern Recognition.