Face Recognition Problem Through Caricaturist's Eyes

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Abstract Significant progress has been witnessed on automatic face recognition research in the last decade. Most problems like real-time face detection, facial feature extraction and especially frontal face recognition (under controlled environments) have shown improving solutions. However, still there are challenges continuously addressed on posing, illumination, facial expression, age and gender recognition, sketch and caricature matching, etc. For example, facial caricatures are informative funny images that allow us to identify a subject even with a few lines and dots. Matching caricatures to photographs is a challenging cross-modal face matching problem. In this talk we will address this problem looking through "the eyes of a caricaturist" by defining a set of qualitative face features both for caricatures and photographs where features are automatically extracted from photos and manually labeled in caricatures. Additionally, we will show and discuss how face-looking images can be automatically detected by computers and can be matched to their photomates.

Biography Tayfun Akgul is a Professor in the Faculty of Electrical-Electronics Engineering, Department of Electronics and Telecommunications at Istanbul Technical University since 2002 where he teaches graduate and undergraduate level signal processing courses. His on-going research is in the area of signal and image processing (particularly on face recognition), array processing, acoustics, speech and geo-signal processing. Between 1999 and 2002, he was Chief Senior Researcher in the Information Technologies Institute at TUBITAK MAM, Turkey. He was an Assistant Professor and later an Associate Professor in the Department of Electrical Engineering at Cukurova University in Turkey. Also between April 1997 and November 1999, he was a Visiting Assistant Professor and later a Research Associate Professor in the Electrical and Computer Engineering Department at Drexel University, USA. Between 1996 and 1997, he was a postdoctoral fellow at the University of Pittsburgh. He received his Ph.D. in Electrical Engineering from the University of Pittsburgh in April 1994. Also, Tayfun Akgül is a professional cartoonist - regularly published in the Science and Technology section of the prestigious newspaper Cumhuriyet in Turkey. His cartoon corner `Et Cetera` appeared in the IEEE Antennas and Propogation Magazine between June 2007 and December 2014. Since 2015, 'Et Cetera' appears in Radio Science Bulletin (U.R.S.I).