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Special Issue on Facial Biometrics in the Wild

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Face recognition is an established field of machine learning and has progressed for over three decades in terms of theory, algorithms and applications. While surveillance systems are in common practice and close-range facial recognition at entry points exist, the field has progressed beyond still image recognition in controlled imaging environments. Facial recognition in the wild connotes general face recognition from still and video imaging, unabated by age, position, illumination and expression (A-PIE) of individuals. Facial recognition in that sense of generality crosses boundaries of applications from security to education and various man-machine interfaces. This special issue will address the latest developments in age models, illumination models, pose-invariant recognition, and the role of expression understanding in face recognition. Both still and video-based imaging are considered, and partial information from either modality is of interest. Hybrid methods (still + video) are of particular interest, and fusion methodologies that handle uncertain information, occlusion and cross-age variations are strongly encouraged. This special issue will focus on the theoretical foundation of facial information modeling and analysis, novel algorithms and systems, and multidisciplinary perspectives and applications of facial biometrics.

These topics, and related subject matters, will be categorized into four broad categories:

- *Facial Information Modeling:* Illumination; Facial Features; Pose Invariance; Age Modeling; Expression Modeling & Synthesis

- *Man-Machine Interface for Facial Biometrics:* Emotion Models; Affective Models; State of mind; detection and analysis; Facial biometric-driven robotics and smart systems; Facial readings for special needs

- *Performance Evaluation of Facial Biometrics Methodologies:* Performance measures of facial detection; Performance measures of facial features for recognition; Overall performance measures; A-PIE overall performance measures; Performance measures with open environment facial biometrics.

- *Facial Biometrics Systems:* Single camera systems (single and multiple object); Video-based facial tracking; Face recognition at a distance; Facial biometrics smart systems and tele-presence; Mobile facial biometric systems; Person re-identification; Super-resolution and low resolution facial biometric systems.

Submission Procedure: Manuscripts are to be submitted according to the Information for Authors at http://www.signalprocessingsociety.org/publications/periodicals/forensics/forensics-authors-info/ using the IEEE online manuscript system, Manuscript Central. Papers must not have appeared or be under review elsewhere. Manuscripts by the guest editors submitted to this SI will be handled by the EIC of IEEE-TIFS.

Schedule:

- Submission deadline: February 15, 2014 (**Extended to March 15, 2014, 5:00 PM EDT**)**.**
- First Review: June 1, 2014
- Revisions Due: July 15, 2014
- Final Decision: September 1, 2014

Final manuscript due: September 30, 2014
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