2019 Index
Title
Vol. 1

This index covers all technical items—papers, correspondence, reviews, etc.—that appeared in this periodical during 2019. Departments and other items may also be covered if they have been judged to have archival value.

The Author Index contains the primary entry for each item, listed under the first author's name. The primary entry includes the coauthors' names, the title of the paper or other item, and its location, specified by the publication abbreviation, year, month, and inclusive pagination. The Subject Index contains entries describing the item under all appropriate subject headings, plus the first author's name, the publication abbreviation, month, and year, and inclusive pages. Note that the item title is found only under the primary entry in the Author Index.

AUTHOR INDEX

A

Alonso-Fernandez, F., *see* Gonzalez-Sosa, E., *TBIOM April 2019 139-151*
Arya, K.V., *see* Rajput, S.S., *TBIOM Oct. 2019 252-263*

B

Bansal, A., *see* Ranjan, R., *TBIOM April 2019 82-96*
Bhattacharjee, S., *see* Kotwal, K., *TBIOM Oct. 2019 238-251*
Boakes, M., Guest, R., Deravi, F., and Corsetti, B., Exploring Mobile Biometric Performance Through Identification of Core Factors and Relationships; *TBIOM Oct. 2019 278-291*
Bowyer, K.W., Editorial Welcome to the IEEE Transactions on Biometrics, Behavior, and Identity Science!; *TBIOM Jan. 2019 3-4*
Busch, C., *see* Scherhag, U., *TBIOM Oct. 2019 302-317*

C

Carter, J.N., *see* Guo, B.H., *TBIOM Oct. 2019 292-301*
Castillo, C., *see* Ranjan, R., *TBIOM April 2019 82-96*
Castillo, C.D., *see* Lu, B., *TBIOM Jan. 2019 42-55*
Chellappa, R., *see* Lu, B., *TBIOM Jan. 2019 42-55*
Chellappa, R., *see* Ranjan, R., *TBIOM April 2019 82-96*
Chellappa, R., *see* Singh, M., *TBIOM April 2019 97-108*
Chellappa, R., *see* Mahbub, U., *TBIOM July 2019 165-180*
Chen, J., *see* Lu, B., *TBIOM Jan. 2019 42-55*
Chen, J., *see* Ranjan, R., *TBIOM April 2019 82-96*
Cheng, X., Lu, J., Yuan, B., and Zhou, J., Face Segmentor-Enhanced Deep Feature Learning for Face Recognition; *TBIOM Oct. 2019 223-237*
Cook, C.M., Howard, J.J., Sirotin, Y.B., Tipton, J.L., and Vemury, A.R., Demographic Effects in Facial Recognition and Their Dependence on Image Acquisition: An Evaluation of Eleven Commercial Systems; *TBIOM Jan. 2019 32-41*
Corsetti, B., *see* Boakes, M., *TBIOM Oct. 2019 278-291*

D

de Freitas Pereira, T., *see* Heusch, G., *TBIOM Oct. 2019 210-222*
Debiasi, L., *see* Scherhag, U., *TBIOM Oct. 2019 302-317*
Deravi, F., *see* Boakes, M., *TBIOM Oct. 2019 278-291*

E

Economou, G., *see* Zois, E.N., *TBIOM Jan. 2019 68-81*

F

Ferreira, D., *see* Mahbub, U., *TBIOM July 2019 165-180*
Fierrez, J., *see* Gonzalez-Sosa, E., *TBIOM April 2019 139-151*

G

Gleason, J., *see* Ranjan, R., *TBIOM April 2019 82-96*
Goldgof, D., *see* Zamzmi, G., *TBIOM July 2019 192-200*
Gonzalez-Sosa, E., Vera-Rodriguez, R., Fierrez, J., Alonso-Fernandez, F., and Patel, V.M., Exploring Body Texture From mmW Images for Person Recognition; *TBIOM April 2019 139-151*
Griswold-Steiner, I., Matovu, R., and Serwadda, A., Wearables-Driven Freeform Handwriting Authentication; *TBIOM July 2019 152-164*
Guest, R., *see* Boakes, M., *TBIOM Oct. 2019 278-291*
Guo, B.H., Nixon, M.S., and Carter, J.N., Soft Biometric Fusion for Subject Recognition at a Distance; *TBIOM Oct. 2019 292-301*

H

Heusch, G., de Freitas Pereira, T., and Marcel, S., A Comprehensive Experimental and Reproducible Study on Selfie Biometrics in Multistream and Heterogeneous Settings; *TBIOM Oct. 2019 210-222*
Ho, T., *see* Zamzmi, G., *TBIOM July 2019 192-200*
Howard, J.J., *see* Cook, C.M., *TBIOM Jan. 2019 32-41*

I

Ishwar, P., *see* Sae-Bae, N., *TBIOM Jan. 2019 5-31*

J

Jain, A.K., *see* Shi, Y., *TBIOM Jan. 2019 56-67*

K

Kakadiaris, I.A., *see* Shi, L., *TBIOM July 2019 181-191*
Kakadiaris, I.A., *see* Wu, Y., *TBIOM Oct. 2019 264-277*
Kasturi, R., *see* Zamzmi, G., *TBIOM July 2019 192-200*
Kauba, C., *see* Prommegger, B., *TBIOM April 2019 123-138*
Kesidis, A.L., *see* Zois, E.N., *TBIOM Jan. 2019 68-81*
Komulainen, J., *see* Mahbub, U., *TBIOM July 2019 165-180*
Konrad, J., *see* Sae-Bae, N., *TBIOM Jan. 2019 5-31*
Kotwal, K., Bhattacharjee, S., and Marcel, S., Multispectral Deep Embeddings as a Countermeasure to Custom Silicone Mask Presentation Attacks; *TBIOM Oct. 2019 238-251*
Kumar, A., Toward Pose Invariant and Completely Contactless Finger Knuckle Recognition; *TBIOM July 2019 201-209*

L

Linortner, M., *see* Prommegger, B., *TBIOM April 2019 123-138*
Lu, B., Chen, J., Castillo, C.D., and Chellappa, R., An Experimental Evaluation of Covariates Effects on Unconstrained Face Verification; *TBIOM Jan. 2019 42-55*
Lu, B., *see* Ranjan, R., *TBIOM April 2019 82-96*
Lu, J., *see* Cheng, X., *TBIOM Oct. 2019 223-237*

M

Mahbub, U., Komulainen, J., Ferreira, D., and Chellappa, R., Continuous Authentication of Smartphones Based on Application Usage; *TBIOM July 2019 165-180*
Marcel, S., *see* Kotwal, K., *TBIOM Oct. 2019 238-251*
Marcel, S., *see* Heusch, G., *TBIOM Oct. 2019 210-222*
Matovu, R., *see* Griswold-Steiner, I., *TBIOM July 2019 152-164*
Memon, N., *see* Sae-Bae, N., *TBIOM Jan. 2019 5-31*

N

Nanduri, A., *see* Ranjan, R., *TBIOM April 2019 82-96*
Neal, T.J., and Woodard, D.L., You Are Not Acting Like Yourself: A Study on Soft Biometric Classification, Person Identification, and Mobile Device Use; *TBIOM April 2019 109-122*
Nixon, M.S., *see* Vatsa, M., *TBIOM Jan. 2019 1-2*
Nixon, M.S., *see* Guo, B.H., *TBIOM Oct. 2019 292-301*

P

Patel, V.M., *see* Gonzalez-Sosa, E., *TBIOM April 2019 139-151*
Paul, R., *see* Zamzmi, G., *TBIOM July 2019 192-200*
Prommegger, B., Kauba, C., Linortner, M., and Uhl, A., Longitudinal Finger Rotation—Deformation Detection and Correction; *TBIOM April 2019 123-138*

R

Rajput, S.S., and Arya, K.V., Noise Robust Face Hallucination via Outlier Regularized Least Square and Neighbor Representation; *TBIOM Oct. 2019 252-263*
Ranjan, R., Chellappa, R., Bansal, A., Zheng, J., Xu, H., Gleason, J., Lu, B., Nanduri, A., Chen, J., and Castillo, C., A Fast and Accurate System for Face Detection, Identification, and Verification; *TBIOM April 2019 82-96*
Ratha, N.K., *see* Singh, M., *TBIOM April 2019 97-108*
Rathgeb, C., *see* Scherhag, U., *TBIOM Oct. 2019 302-317*

S

Sae-Bae, N., Wu, J., Memon, N., Konrad, J., and Ishwar, P., Emerging NUI-Based Methods for User Authentication: A New Taxonomy and Survey; *TBIOM Jan. 2019 5-31*
Salekin, M.S., *see* Zamzmi, G., *TBIOM July 2019 192-200*
Scherhag, U., Debiasi, L., Rathgeb, C., Busch, C., and Uhl, A., Detection of Face Morphing Attacks Based on PRNU Analysis; *TBIOM Oct. 2019 302-317*
Serwadda, A., *see* Griswold-Steiner, I., *TBIOM July 2019 152-164*
Shi, L., Xu, X., and Kakadiaris, I.A., SSFD+: A Robust Two-Stage Face Detector; *TBIOM July 2019 181-191*
Shi, Y., and Jain, A.K., DocFace+: ID Document to Selfie Matching; *TBIOM Jan. 2019 56-67*
Singh, M., Singh, R., Vatsa, M., Ratha, N.K., and Chellappa, R., Recognizing Disguised Faces in the Wild; *TBIOM April 2019 97-108*
Singh, R., *see* Singh, M., *TBIOM April 2019 97-108*
Sirotin, Y.B., *see* Cook, C.M., *TBIOM Jan. 2019 32-41*
Sun, Y., *see* Zamzmi, G., *TBIOM July 2019 192-200*

T

Theodorakopoulos, I., *see* Zois, E.N., *TBIOM Jan. 2019 68-81*
Tipton, J.L., *see* Cook, C.M., *TBIOM Jan. 2019 32-41*
Tsourounis, D., *see* Zois, E.N., *TBIOM Jan. 2019 68-81*

U

Uhl, A., *see* Prommegger, B., *TBIOM April 2019 123-138*
Uhl, A., *see* Scherhag, U., *TBIOM Oct. 2019 302-317*

V

Vatsa, M., and Nixon, M.S., Editorial Introducing the IEEE Transactions on Biometrics, Behavior, and Identity Science; *TBIOM Jan. 2019 1-2*
Vatsa, M., *see* Singh, M., *TBIOM April 2019 97-108*
Vemury, A.R., *see* Cook, C.M., *TBIOM Jan. 2019 32-41*
Vera-Rodriguez, R., *see* Gonzalez-Sosa, E., *TBIOM April 2019 139-151*

W

Woodard, D.L., *see* Neal, T.J., *TBIOM April 2019 109-122*
Wu, J., *see* Sae-Bae, N., *TBIOM Jan. 2019 5-31*
Wu, Y., and Kakadiaris, I.A., 3-D Face Alignment Using A Convolutional Point-Set Representation; *TBIOM Oct. 2019 264-277*

X

Xu, H., *see* Ranjan, R., *TBIOM April 2019 82-96*
Xu, X., *see* Shi, L., *TBIOM July 2019 181-191*

Y

Yuan, B., *see* Cheng, X., *TBIOM Oct. 2019 223-237*

Z

Zamzmi, G., Paul, R., Salekin, M.S., Goldgof, D., Kasturi, R., Ho, T., and Sun, Y., Convolutional Neural Networks for Neonatal Pain Assessment; *TBIOM July 2019 192-200*
Zheng, J., *see* Ranjan, R., *TBIOM April 2019 82-96*
Zhou, J., *see* Cheng, X., *TBIOM Oct. 2019 223-237*
Zois, E.N., Tsourounis, D., Theodorakopoulos, I., Kesidis, A.L., and Economou, G., A Comprehensive Study of Sparse Representation Techniques for Offline Signature Verification; *TBIOM Jan. 2019 68-81*

Subject Index

A

Authentication
Exploring Mobile Biometric Performance Through Identification of Core Factors and Relationships. *Boakes, M.*, +, *TBIOM Oct. 2019 278-291*
Authorization
You Are Not Acting Like Yourself: A Study on Soft Biometric Classification, Person Identification, and Mobile Device Use. *Neal, T.J.*, +, *TBIOM April 2019 109-122*

B

Biometrics (access control)
Demographic Effects in Facial Recognition and Their Dependence on Image Acquisition: An Evaluation of Eleven Commercial Systems. *Cook, C.M.*, +, *TBIOM Jan. 2019 32-41*
Detection of Face Morphing Attacks Based on PRNU Analysis. *Scherhag, U.*, +, *TBIOM Oct. 2019 302-317*
Exploring Mobile Biometric Performance Through Identification of Core Factors and Relationships. *Boakes, M.*, +, *TBIOM Oct. 2019 278-291*
Longitudinal Finger Rotation—Deformation Detection and Correction. *Prommegger, B.*, +, *TBIOM April 2019 123-138*
Multispectral Deep Embeddings as a Countermeasure to Custom Silicone Mask Presentation Attacks. *Kotwal, K.*, +, *TBIOM Oct. 2019 238-251*
Noise Robust Face Hallucination via Outlier Regularized Least Square and Neighbor Representation. *Rajput, S.S.*, +, *TBIOM Oct. 2019 252-263*

+ Check author entry for coauthors

Soft Biometric Fusion for Subject Recognition at a Distance. *Guo, B.H.*, +, *TBIOM Oct. 2019 292-301*
Wearables-Driven Freeform Handwriting Authentication. *Griswold-Steiner, I.*, +, *TBIOM July 2019 152-164*
You Are Not Acting Like Yourself: A Study on Soft Biometric Classification, Person Identification, and Mobile Device Use. *Neal, T.J.*, +, *TBIOM April 2019 109-122*

C

Clothing
Soft Biometric Fusion for Subject Recognition at a Distance. *Guo, B.H.*, +, *TBIOM Oct. 2019 292-301*
Computational complexity
SSFD+: A Robust Two-Stage Face Detector. *Shi, L.*, +, *TBIOM July 2019 181-191*
Convolutional neural nets
3-D Face Alignment Using A Convolutional Point-Set Representation. *Wu, Y.*, +, *TBIOM Oct. 2019 264-277*
A Comprehensive Experimental and Reproducible Study on Selfie Biometrics in Multistream and Heterogeneous Settings. *Heusch, G.*, +, *TBIOM Oct. 2019 210-222*
A Fast and Accurate System for Face Detection, Identification, and Verification. *Ranjan, R.*, +, *TBIOM April 2019 82-96*
An Experimental Evaluation of Covariates Effects on Unconstrained Face Verification. *Lu, B.*, +, *TBIOM Jan. 2019 42-55*
Convolutional Neural Networks for Neonatal Pain Assessment. *Zamzmi, G.*, +, *TBIOM July 2019 192-200*
Multispectral Deep Embeddings as a Countermeasure to Custom Silicone Mask Presentation Attacks. *Kotwal, K.*, +, *TBIOM Oct. 2019 238-251*
Correlation
Face Segmentor-Enhanced Deep Feature Learning for Face Recognition. *Cheng, X.*, +, *TBIOM Oct. 2019 223-237*

D

Data analysis
You Are Not Acting Like Yourself: A Study on Soft Biometric Classification, Person Identification, and Mobile Device Use. *Neal, T.J.*, +, *TBIOM April 2019 109-122*
Databases
A Comprehensive Experimental and Reproducible Study on Selfie Biometrics in Multistream and Heterogeneous Settings. *Heusch, G.*, +, *TBIOM Oct. 2019 210-222*
Detection of Face Morphing Attacks Based on PRNU Analysis. *Scherhag, U.*, +, *TBIOM Oct. 2019 302-317*
Deep learning
Multispectral Deep Embeddings as a Countermeasure to Custom Silicone Mask Presentation Attacks. *Kotwal, K.*, +, *TBIOM Oct. 2019 238-251*
Deformation
Longitudinal Finger Rotation—Deformation Detection and Correction. *Prommegger, B.*, +, *TBIOM April 2019 123-138*
Demography
Demographic Effects in Facial Recognition and Their Dependence on Image Acquisition: An Evaluation of Eleven Commercial Systems. *Cook, C.M.*, +, *TBIOM Jan. 2019 32-41*
Document image processing
DocFace+: ID Document to Selfie Matching. *Shi, Y.*, +, *TBIOM Jan. 2019 56-67*

E

Emotion recognition
Convolutional Neural Networks for Neonatal Pain Assessment. *Zamzmi, G.*, +, *TBIOM July 2019 192-200*
Eyebrows
Soft Biometric Fusion for Subject Recognition at a Distance. *Guo, B.H.*, +, *TBIOM Oct. 2019 292-301*

F

Face
3-D Face Alignment Using A Convolutional Point-Set Representation. *Wu, Y.*, +, *TBIOM Oct. 2019 264-277*
Noise Robust Face Hallucination via Outlier Regularized Least Square and Neighbor Representation. *Rajput, S.S.*, +, *TBIOM Oct. 2019 252-263*
Face recognition
A Comprehensive Experimental and Reproducible Study on Selfie Biometrics in Multistream and Heterogeneous Settings. *Heusch, G.*, +, *TBIOM Oct. 2019 210-222*
A Fast and Accurate System for Face Detection, Identification, and Verification. *Ranjan, R.*, +, *TBIOM April 2019 82-96*
An Experimental Evaluation of Covariates Effects on Unconstrained Face Verification. *Lu, B.*, +, *TBIOM Jan. 2019 42-55*
Demographic Effects in Facial Recognition and Their Dependence on Image Acquisition: An Evaluation of Eleven Commercial Systems. *Cook, C.M.*, +, *TBIOM Jan. 2019 32-41*
Detection of Face Morphing Attacks Based on PRNU Analysis. *Scherhag, U.*, +, *TBIOM Oct. 2019 302-317*
DocFace+: ID Document to Selfie Matching. *Shi, Y.*, +, *TBIOM Jan. 2019 56-67*
Exploring Body Texture From mmW Images for Person Recognition. *Gonzalez-Sosa, E.*, +, *TBIOM April 2019 139-151*
Face Segmentor-Enhanced Deep Feature Learning for Face Recognition. *Cheng, X.*, +, *TBIOM Oct. 2019 223-237*
Multispectral Deep Embeddings as a Countermeasure to Custom Silicone Mask Presentation Attacks. *Kotwal, K.*, +, *TBIOM Oct. 2019 238-251*
Recognizing Disguised Faces in the Wild. *Singh, M.*, +, *TBIOM April 2019 97-108*
Soft Biometric Fusion for Subject Recognition at a Distance. *Guo, B.H.*, +, *TBIOM Oct. 2019 292-301*
SSFD+: A Robust Two-Stage Face Detector. *Shi, L.*, +, *TBIOM July 2019 181-191*
Feature extraction
3-D Face Alignment Using A Convolutional Point-Set Representation. *Wu, Y.*, +, *TBIOM Oct. 2019 264-277*
A Comprehensive Study of Sparse Representation Techniques for Offline Signature Verification. *Zois, E.N.*, +, *TBIOM Jan. 2019 68-81*
Detection of Face Morphing Attacks Based on PRNU Analysis. *Scherhag, U.*, +, *TBIOM Oct. 2019 302-317*
Exploring Body Texture From mmW Images for Person Recognition. *Gonzalez-Sosa, E.*, +, *TBIOM April 2019 139-151*
Face Segmentor-Enhanced Deep Feature Learning for Face Recognition. *Cheng, X.*, +, *TBIOM Oct. 2019 223-237*
Longitudinal Finger Rotation—Deformation Detection and Correction. *Prommegger, B.*, +, *TBIOM April 2019 123-138*
Multispectral Deep Embeddings as a Countermeasure to Custom Silicone Mask Presentation Attacks. *Kotwal, K.*, +, *TBIOM Oct. 2019 238-251*
Soft Biometric Fusion for Subject Recognition at a Distance. *Guo, B.H.*, +, *TBIOM Oct. 2019 292-301*
SSFD+: A Robust Two-Stage Face Detector. *Shi, L.*, +, *TBIOM July 2019 181-191*
Toward Pose Invariant and Completely Contactless Finger Knuckle Recognition. *Kumar, A., TBIOM July 2019 201-209*
Wearables-Driven Freeform Handwriting Authentication. *Griswold-Steiner, I.*, +, *TBIOM July 2019 152-164*
Fingerprint identification
Toward Pose Invariant and Completely Contactless Finger Knuckle Recognition. *Kumar, A., TBIOM July 2019 201-209*

G

Gaussian noise
Noise Robust Face Hallucination via Outlier Regularized Least Square and Neighbor Representation. *Rajput, S.S.*, +, *TBIOM Oct. 2019 252-263*

Gender issues
An Experimental Evaluation of Covariates Effects on Unconstrained Face Verification. *Lu, B.*, +, *TBIOM Jan. 2019 42-55*
Gradient methods
DocFace+: ID Document to Selfie Matching. *Shi, Y.*, +, *TBIOM Jan. 2019 56-67*

H

Handwriting recognition
A Comprehensive Study of Sparse Representation Techniques for Offline Signature Verification. *Zois, E.N.*, +, *TBIOM Jan. 2019 68-81*
Wearables-Driven Freeform Handwriting Authentication. *Griswold-Steiner, I.*, +, *TBIOM July 2019 152-164*
Hardware
Exploring Mobile Biometric Performance Through Identification of Core Factors and Relationships. *Boakes, M.*, +, *TBIOM Oct. 2019 278-291*
Health care
Emerging NUI-Based Methods for User Authentication: A New Taxonomy and Survey. *Sae-Bae, N.*, +, *TBIOM Jan. 2019 5-31*
Hidden Markov models
Continuous Authentication of Smartphones Based on Application Usage. *Mahbub, U.*, +, *TBIOM July 2019 165-180*
Home automation
Emerging NUI-Based Methods for User Authentication: A New Taxonomy and Survey. *Sae-Bae, N.*, +, *TBIOM Jan. 2019 5-31*
Human computer interaction
Emerging NUI-Based Methods for User Authentication: A New Taxonomy and Survey. *Sae-Bae, N.*, +, *TBIOM Jan. 2019 5-31*

I

Identification of persons
Soft Biometric Fusion for Subject Recognition at a Distance. *Guo, B.H.*, +, *TBIOM Oct. 2019 292-301*
Image classification
Exploring Body Texture From mmW Images for Person Recognition. *Gonzalez-Sosa, E.*, +, *TBIOM April 2019 139-151*
Image color analysis
Soft Biometric Fusion for Subject Recognition at a Distance. *Guo, B.H.*, +, *TBIOM Oct. 2019 292-301*
Image fusion
An Experimental Evaluation of Covariates Effects on Unconstrained Face Verification. *Lu, B.*, +, *TBIOM Jan. 2019 42-55*
Longitudinal Finger Rotation—Deformation Detection and Correction. *Prommegger, B.*, +, *TBIOM April 2019 123-138*
Image matching
DocFace+: ID Document to Selfie Matching. *Shi, Y.*, +, *TBIOM Jan. 2019 56-67*
Toward Pose Invariant and Completely Contactless Finger Knuckle Recognition. *Kumar, A., TBIOM July 2019 201-209*
Image recognition
Toward Pose Invariant and Completely Contactless Finger Knuckle Recognition. *Kumar, A., TBIOM July 2019 201-209*
Image reconstruction
Noise Robust Face Hallucination via Outlier Regularized Least Square and Neighbor Representation. *Rajput, S.S.*, +, *TBIOM Oct. 2019 252-263*
Image representation
A Comprehensive Study of Sparse Representation Techniques for Offline Signature Verification. *Zois, E.N.*, +, *TBIOM Jan. 2019 68-81*
SSFD+: A Robust Two-Stage Face Detector. *Shi, L.*, +, *TBIOM July 2019 181-191*
Image resolution
Noise Robust Face Hallucination via Outlier Regularized Least Square and Neighbor Representation. *Rajput, S.S.*, +, *TBIOM Oct. 2019 252-263*
Image segmentation
A Comprehensive Study of Sparse Representation Techniques for Offline Signature Verification. *Zois, E.N.*, +, *TBIOM Jan. 2019 68-81*
Face Segmentor-Enhanced Deep Feature Learning for Face Recognition. *Cheng, X.*, +, *TBIOM Oct. 2019 223-237*
Image texture
Exploring Body Texture From mmW Images for Person Recognition. *Gonzalez-Sosa, E.*, +, *TBIOM April 2019 139-151*

L

Learning (artificial intelligence)
A Fast and Accurate System for Face Detection, Identification, and Verification. *Ranjan, R.*, +, *TBIOM April 2019 82-96*
An Experimental Evaluation of Covariates Effects on Unconstrained Face Verification. *Lu, B.*, +, *TBIOM Jan. 2019 42-55*
DocFace+: ID Document to Selfie Matching. *Shi, Y.*, +, *TBIOM Jan. 2019 56-67*
Exploring Body Texture From mmW Images for Person Recognition. *Gonzalez-Sosa, E.*, +, *TBIOM April 2019 139-151*
SSFD+: A Robust Two-Stage Face Detector. *Shi, L.*, +, *TBIOM July 2019 181-191*
Lighting
A Comprehensive Experimental and Reproducible Study on Selfie Biometrics in Multistream and Heterogeneous Settings. *Heusch, G.*, +, *TBIOM Oct. 2019 210-222*

M

Medical image processing
Convolutional Neural Networks for Neonatal Pain Assessment. *Zamzmi, G.*, +, *TBIOM July 2019 192-200*
Message authentication
Emerging NUI-Based Methods for User Authentication: A New Taxonomy and Survey. *Sae-Bae, N.*, +, *TBIOM Jan. 2019 5-31*
Wearables-Driven Freeform Handwriting Authentication. *Griswold-Steiner, I.*, +, *TBIOM July 2019 152-164*
You Are Not Acting Like Yourself: A Study on Soft Biometric Classification, Person Identification, and Mobile Device Use. *Neal, T.J.*, +, *TBIOM April 2019 109-122*
Mobile computing
DocFace+: ID Document to Selfie Matching. *Shi, Y.*, +, *TBIOM Jan. 2019 56-67*
Wearables-Driven Freeform Handwriting Authentication. *Griswold-Steiner, I.*, +, *TBIOM July 2019 152-164*
You Are Not Acting Like Yourself: A Study on Soft Biometric Classification, Person Identification, and Mobile Device Use. *Neal, T.J.*, +, *TBIOM April 2019 109-122*

N

Neural networks
Exploring Body Texture From mmW Images for Person Recognition. *Gonzalez-Sosa, E.*, +, *TBIOM April 2019 139-151*

O

Object detection
SSFD+: A Robust Two-Stage Face Detector. *Shi, L.*, +, *TBIOM July 2019 181-191*
Object recognition
Convolutional Neural Networks for Neonatal Pain Assessment. *Zamzmi, G.*, +, *TBIOM July 2019 192-200*
Optimization
DocFace+: ID Document to Selfie Matching. *Shi, Y.*, +, *TBIOM Jan. 2019 56-67*

P

Pattern classification
You Are Not Acting Like Yourself: A Study on Soft Biometric Classification, Person Identification, and Mobile Device Use. *Neal, T.J.*, +, *TBIOM April 2019 109-122*

Performance evaluation
Exploring Mobile Biometric Performance Through Identification of Core Factors and Relationships. *Boakes, M.*, +, *TBIOM Oct. 2019 278-291*
Pose estimation
3-D Face Alignment Using A Convolutional Point-Set Representation. *Wu, Y.*, +, *TBIOM Oct. 2019 264-277*
Protocols
A Comprehensive Experimental and Reproducible Study on Selfie Biometrics in Multistream and Heterogeneous Settings. *Heusch, G.*, +, *TBIOM Oct. 2019 210-222*

R

Reproducibility of results
A Comprehensive Experimental and Reproducible Study on Selfie Biometrics in Multistream and Heterogeneous Settings. *Heusch, G.*, +, *TBIOM Oct. 2019 210-222*

S

Security of data
Continuous Authentication of Smartphones Based on Application Usage. *Mahbub, U.*, +, *TBIOM July 2019 165-180*
Semantics
Face Segmentor-Enhanced Deep Feature Learning for Face Recognition. *Cheng, X.*, +, *TBIOM Oct. 2019 223-237*
Shape
3-D Face Alignment Using A Convolutional Point-Set Representation. *Wu, Y.*, +, *TBIOM Oct. 2019 264-277*
Skin
Demographic Effects in Facial Recognition and Their Dependence on Image Acquisition: An Evaluation of Eleven Commercial Systems. *Cook, C.M.*, +, *TBIOM Jan. 2019 32-41*
Soft Biometric Fusion for Subject Recognition at a Distance. *Guo, B.H.*, +, *TBIOM Oct. 2019 292-301*
Smart phones
Continuous Authentication of Smartphones Based on Application Usage. *Mahbub, U.*, +, *TBIOM July 2019 165-180*
Exploring Mobile Biometric Performance Through Identification of Core Factors and Relationships. *Boakes, M.*, +, *TBIOM Oct. 2019 278-291*
Statistical analysis
A Comprehensive Study of Sparse Representation Techniques for Offline Signature Verification. *Zois, E.N.*, +, *TBIOM Jan. 2019 68-81*
Superresolution
Noise Robust Face Hallucination via Outlier Regularized Least Square and Neighbor Representation. *Rajput, S.S.*, +, *TBIOM Oct. 2019 252-263*
Support vector machines
Detection of Face Morphing Attacks Based on PRNU Analysis. *Scherhag, U.*, +, *TBIOM Oct. 2019 302-317*
Surveillance
Noise Robust Face Hallucination via Outlier Regularized Least Square and Neighbor Representation. *Rajput, S.S.*, +, *TBIOM Oct. 2019 252-263*

T

Testing
Exploring Mobile Biometric Performance Through Identification of Core Factors and Relationships. *Boakes, M.*, +, *TBIOM Oct. 2019 278-291*
Three-dimensional displays
3-D Face Alignment Using A Convolutional Point-Set Representation. *Wu, Y.*, +, *TBIOM Oct. 2019 264-277*

U

User interfaces
Emerging NUI-Based Methods for User Authentication: A New Taxonomy and Survey. *Sae-Bae, N.*, +, *TBIOM Jan. 2019 5-31*

V

Vein recognition
Longitudinal Finger Rotation—Deformation Detection and Correction. *Prommegger, B.*, +, *TBIOM April 2019 123-138*
Visual databases
A Fast and Accurate System for Face Detection, Identification, and Verification. *Ranjan, R.*, +, *TBIOM April 2019 82-96*

W

Wearable computers
Wearables-Driven Freeform Handwriting Authentication. *Griswold-Steiner, I.*, +, *TBIOM July 2019 152-164*