

CURRICULUM VITAE

Full Name : Heydi Méndez Vázquez
Sex : Female
Date of Birth : October 21th , 1982
Academic Title: Informatics Engineering (*with Honours*)
Occupation : Head of Biometrics Department
Place of Work: Advanced Technologies Application Center (CENATAV)
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EDUCATION & TRAINING

2011: Ph.D in Automatic and Computing: "Face Recognition based on Local Appearance for Face Recognition under Varying Lighting Conditions", Higher Polytechnic Institute "José A. Echeverría" (CUJAE), Havana, Cuba.

2005: B.Sc. Informatics Engineering, Higher Polytechnic Institute "José A. Echeverría" (CUJAE), Havana, Cuba, with First-Class Honours (called Golden Title in Cuba).

WORK EXPERIENCE

2014 - 2016: Associate Researcher, CENATAV

2010 - 2014: Assistance Researcher, CENATAV

2005 - 2009: Junior Researcher, CENATAV

RESEARCH INTERESTS

- Pattern Recognition
- Digital Image Processing and Analysis
- Biometrics
- Face Recognition

AFFILIATION

Member of the Cuban Society of Mathematic and Computing
Member of the Cuban Association of Pattern Recognition
Member of the International Association of Pattern Recognition
Young Researcher Associated to the Cuban Academy of Sciences

MAIN SCIENTIFIC WORKS

- Fingerprint Identification , CENATAV, Cuba, 2005-2006
 - Searching and Matching Algorithms.
 - Verification Algorithms.
 - Representation by Means of Minutiae Graphs.
 - Image Quality Algorithms.
- Face Recognition, CENATAV, Cuba, 2007-2011
 - Feature Extraction Algorithms.
 - Verification and Identification Algorithms.
 - Face Image Quality
 - Illumination invariant Face Recognition
- Face Recognition in Unconstrained Scenarios, CENATAV, Cuba, 2012-2016
 - Illumination invariant Face Recognition.
 - Selection of the best face image in a video sequence.
 - Face Detection in unconstrained scenarios.
 - Face Recognition in Videos.

SCIENTIFIC INTERNATIONAL COLLABORATIONS:

- Research stay in University of Surrey, UK, with Professor Josef Kittler, for three months in 2008 and 2009.
- Research stay in National Laboratory of Pattern Recognition (NLPR), China, with Professors Zhenan Sun and Tieniu Tan, for three months in 2011.

HONORS AND AWARDS

Best student paper award: 5th IAPR International Summer School for Advanced Studies on Biometrics, Italy, 2008.

Best annual scientific results: Cuban Academy of Sciences, 2011.

Acknowledgment from the Commission of Women Scientists of the Cuban Academy of Sciences, 2011.

TWAS 2012 Prize: for Young Scientists from Cuba.

Aurora Pons-Porrata Award 2015: CIARP AWARD for women in Pattern Recognition and Data Mining fields.

PUBLICATIONS

2015

- Jyrko Correa-Morris, Yoanna Martínez-Díaz, Noslen Hernández, Heydi Méndez-Vázquez: Novel histograms kernels with structural properties. *Pattern Recognition Letters* 68: 146-152 (2015)

2014

- Zhenhua Chai, Zhenan Sun, Heydi Mendez Vazquez, Ran He, Tieniu Tan: "Gabor Ordinal Measures for Face Recognition", *IEEE Transactions on Information Forensics and Security*, 9(1): 14-26 (2014)
- Zenhua Chai, Heydi Mendez-Vázquez, Ran He, Zhenan Sun, Tieniu Tan: "Explore semantic pixel sets based local patterns with information entropy for face recognition", *EURASIP Journal on Image and Video Processing*, 2014:26, DOI: 10.1186/1687-5281-2014-26.
- Yoanna Martínez-Díaz, Noslen Hernández, Heydi Méndez-Vázquez: Face Detection in Video Using Local Spatio-temporal Representations. CIARP 2014: 860-867
- Maria De Marsico, Daniel Riccio, Heydi Mendez Vazquez, Yenisel Plasencia-Calaña: GETSEL: Gallery entropy for template selection on large datasets. IJCB 2014: 1-8
- Zhenhua Chai, Yu Zhang, Zhijun Du, Dong Wang, Heydi Mendez Vazquez: Learning Flexible Block based Local Binary Patterns for unconstrained face detection. ICME 2014: 1-6
- Yenisel Plasencia Calana, Mauricio Orozco-Alzate, Heydi Mendez Vazquez, Edel B. García Reyes, Robert P. W. Duin: Towards Scalable Prototype Selection by Genetic Algorithms with Fast Criteria. S+SSPR 2014: 343-352

2013

- Heydi Mendez Vazquez, Josef Kittler, Chi-Ho Chan, Edel B. García Reyes: "Photometric Normalization for Face Recognition using Local discrete cosine Transform", *International Journal of Pattern Recognition and Artificial Intelligence IJPRAI*, 27(3) (2013)
- Dayron Rizo, Heydi Mendez-Vazquez, Edel B. García-Reyes: "Illumination Invariant Face Recognition Using Quaternion-Based Correlation Filters", *Journal of Mathematical Imaging and Vision*, Springer, 45 (2), pp. 164-175.
- Dayron Rizo-Rodriguez, Heydi Méndez-Vázquez, Edel B. García Reyes: "Illumination Invariant Face Recognition in quaternion Domain", *International Journal of Pattern Recognition and Artificial Intelligence IJPRAI*, 27(3) (2013).
- Nelson Méndez, Leonardo Chang, Yenisel Plasencia Calaña, Heydi Méndez-Vázquez: "Facial Landmarks Detection Using Extended Profile LBP-Based Active Shape Models", *Progress in Pattern Recognition, Image Analysis, Computer Vision, and Applications. Lecture Notes in Computer Science* Volume 8259, 2013, pp 407-414.

- Zenhua Chai, Heydi Mendez-Vázquez, Zhenan Sun, Tieniu Tan: "Local Salient Patterns - A Novel Local Descriptor for Face Recognition". Proceedings of the 6th IEEE/IAPR International Conference on Biometrics, Madrid, Spain.
- Y. Martínez-Díaz, H. Méndez-Vázquez, N. Hernández, and E.García-Reyes: "Improving faces/non-faces discrimination in video sequences by using a local spatio-temporal representation". Proceedings of the 6th IEEE/IAPR International Conference on Biometrics, Madrid, Spain.
- Heydi Méndez-Vázquez, Y. Martínez-Díaz, Zenhua Chai: "Volume Structured Ordinal Features with Background Similarity Measure for Video Face Recognition". Proceedings of the 6th IEEE/IAPR International Conference on Biometrics, Madrid, Spain.

2012

- Zenhua Chai, Heydi Mendez-Vázquez, Ran He, Zhenan Sun, Tieniu Tan: "Histograms of gabor ordinal measures for face representation and recognition". In: Proceedings of the 5th IEEE/IAPR International Conference on Biometrics, New Delhi, India, March 2012.
- N. Hernández, Y. Martínez-Díaz, D. Porro-Muñoz, H. Méndez-Vázquez: "Face Recognition: Would going back to functional nature be a good idea?", *Progress in Pattern Recognition, Image Analysis, Computer Vision, and Applications*, Lecture Notes in Computer Science Volume 7441, 2012, pp 98-105.
- Y. Martínez-Díaz, H. Méndez-Vázquez, Y. Plasencia-Calaña, and E.García-Reyes: "Dissimilarity Representations Based on Multi-Block LBP for Face Detection", *Progress in Pattern Recognition, Image Analysis, Computer Vision, and Applications*, Lecture Notes in Computer Science Volume 7441, 2012, pp. 106--113.
- Z Chai, H Mendez-Vazquez, R He, Z Sun, T Tan: "Semantic Pixel Sets based Local Binary Patterns for Face Recognition". Proceedings of the 11th Asian Conference on Computer Vision, Korea, Nov. 2012
- Heydi Méndez-Vázquez, Leonardo Chang, Dayron Rizo-Rodriguez, Annette Morales-González: "Face Image Quality Evaluation for Person Identification". *Computación y Sistemas*, 16(2) (2012) (in Spanish).

2011

- Dayron Rizo-Rodriguez, Heydi Méndez-Vazquez, Edel B. García Reyes, César San Martín, Pablo Meza: "Quaternion Correlation Filters for Illumination Invariant Face Recognition". *Progress in Pattern Recognition, Image Analysis and Applications, Lecture Notes in Computer Science*, Vol. 7042, pp. 467-474.
- Ramiro Donoso Floody, César San Martín, Heydi Mendez Vazquez: "Face Recognition Using TOF, LBP and SVM in Thermal Infrared Images". *Progress in Pattern Recognition, Image Analysis and Applications, Lecture Notes in Computer Science*, Vol. 7042, pp. 683-691.
- César San Martín, Roberto Carrillo, Pablo Meza, Heydi Mendez-Vázquez, Yenisel Plasencia, Edel García, Gabriel Hermosilla: "Recent Advances on Face Recognition using Thermal Infrared Images". *Reviews, Refinements and New Ideas in Face Recognition*, InTech 2011.

2010

- Heydi Mendez-Vazquez, Josef Kittler, Chi-Ho Chan, Edel B. García-Reyes: "On Combining Local DCT with Preprocessing Sequence for Face Recognition under Varying Lighting Conditions", in *Lecture Notes in Computer Science: Progress in Pattern Recognition, Image Analysis and Applications*, Vol. 6419 pp. 410-417.
- Dayron Rizo, Heydi Mendez-Vazquez, Edel B. García-Reyes: "Illumination Invariant Face Image Representation Using Quaternions", in *Lecture Notes in Computer Science: Progress in Pattern Recognition, Image Analysis and Applications*, Vol. 6419 pp. 434-441.
- Heydi Mendez-Vazquez, Dayron Rizo, Edel B. García-Reyes: "An Illumination Quality Measure for Face Recognition", *IEEE Proceedings of the 20th International Conference on Pattern Recognition (ICPR 2010)*, pp. 1477-1480.

2009

- Yenisel Plasencia, Edel B. García-Reyes, Robert P. W. Duin, Heydi Mendez-Vazquez, César San Martín, Claudio Soto: "A Study on Representations for Face Recognition from Thermal Image", in *CIARP 2009, Lecture Notes in Computer Science: Progress in Pattern Recognition, Image Analysis and Applications*, Vol. 5856 pp. 185-192.
- Heydi Mendez-Vazquez, César San Martín, Josef Kittler, Yenisel Plasencia, Edel B. García Reyes: "Face Recognition with LWIR Imagery Using Local Binary Patterns", in *ICB 2009, Lecture Notes in Computer Science: Advances in Biometrics*, Vol. 5558 pp. 327-336.
- Yenisel Plasencia, Edel B. García-Reyes, Robert P. W. Duin, Heydi Mendez-Vazquez, César San Martín, Claudio Soto: "Dissimilarity representations for thermal signature recognition at a distance", in *Proceedings of the fifteenth annual conference of the Advanced School for Computing and Imaging, 2009*.

2008

- Heydi Mendez-Vazquez, Edel B. García-Reyes, Yadira Condes-Molleda: "A new combination of local appearance based methods for face recognition under varying lighting conditions", *Lecture Notes in Computer Science*, Vol. 5197 pp. 535-542, ISSN 0302-9743.
- Leonardo Chang, Ivis Rodés, Heydi Mendez-Vazquez, Ernesto del Toro: "Best-shot Selection for Video Face Recognition using FPGA", *Lecture Notes in Computer Science*, Vol. 5197 pp. 543-550, ISSN 0302-9743.
- Heydi Mendez-Vazquez, Edel B. García-Reyes, Yadira Condes-Molleda: "A New Image Division for LBP Method to Improve Face Recognition under Varying Lighting Conditions", *Proceedings of the 19th International Conference on Pattern Recognition (ICPR'08)*, ISBN 978-1-4244-2175-6.

2006

- Eduardo Garea-Llano, Heydi Mendez-Vazquez, Josef Kittler, Kieron Messer: "An Illumination Insensitive Representation for Face Verification in the Frequency Domain", *Proceedings of the 18th International Conference on Pattern Recognition (ICPR'06)*, pp.215-218, ISBN 0-7695-2521-0 ISSN 1051-4651.
- Estela M. Álvarez-Morales, Francisco Silva-Mata, Eduardo Garea-Llano, Heydi Mendez Vazquez, Moisés Herrera: "A Fast Method for Localization of Local Illumination Variations and Photometric Normalization in Face Images", in CIARP 2006, *Lecture Notes in Computer Science*, Vol. 4225 pp. 48-57, ISSN 0302-9743.
- Eduardo Garea-Llano, Josef Kittler, Kieron Messer, Heydi Mendez-Vazquez: "A Comparative Study of Face Representations in the Frequency Domain", in CIARP 2006, *Lecture Notes in Computer Science*, Vol. 4225 pp. 99-108, ISSN 0302-9743.