

# Yenisel Plasencia Calaña

COMPUTER SCIENCE SPECIALIST · RESEARCHER

Biometrics department, Advanced Technologies Application Center, CENATAV. 7a A, 21406 esq. 216, Rpto. Siboney, Playa, C.P. 12200.  
Ciudad de la Habana, Cuba

☎ (53) 5 3579 632 | ✉ yenisel01@gmail.com

## Education

---

### Faculty of Mathematics and Computer Science, Havana University

Havana, Cuba

LIC. IN COMPUTER SCIENCE

2006

### Delft University of Technology

Delft, The Netherlands

PHD. IN TECHNICAL SCIENCES

2015

## Experience

---

### CENATAV

La Habana, Cuba

SCIENTIFIC RESERVE, SUPERVISED BY EDEL GARCIA REYES

2006 - 2008

- Design and implementation of experimental platform and prototype modules for automatic face verification and identification in C Sharp language.
- Implementation and comparison of face feature extraction algorithms in C Sharp language.
- Study of illumination insensitive methods in linear and nonlinear manifolds.

### CENATAV and Delft University of Technology

La Habana, Cuba and Delft, The Netherlands

JUNIOR RESEARCHER, SUPERVISED BY EDEL GARCIA REYES AND ROBERT P. W. DUIN

2008 - 2012

- Face image quality algorithms for eye glasses presence, estimation of eyes openness and mouth closeness in C++ language.
- Method to estimate global face image quality by Support Vector Regression from a set of quality parameters in MATLAB and in C++ language.
- Component for detecting, processing and normalizing face images in C++ language.
- Experimentation of feature reduction methods for large scale face recognition in C++ language.
- Development of prototype selection methods based on genetic algorithms for prototype selection for classification in the Dissimilarity space in MATLAB.
- Development of prototype selection methods for generalized dissimilarity representations based on asymmetric dissimilarity measures in MATLAB
- Development of prototype selection methods for generalized dissimilarity representations based on feature lines as prototypes in MATLAB.

### CENATAV and Delft University of Technology

La Habana, Cuba and Delft, The Netherlands

ASSOCIATE RESEARCHER

2012 - 2016

- Component and methods for face landmarks detection by improved versions of Active Shape Models by changing dimensionality of models and changing the description of points in C++.
- New face quality methods for estimation of eyes openness and mouth closeness based on landmark face points in C++
- Development of fast methods for face template selection and update for large datasets.
- Prototype selection methods based on fast criteria and genetic algorithms for prototype selection for classification in the Dissimilarity Space in MATLAB.
- Prototype selection methods for generalized dissimilarity representations based on clusters as prototypes in MATLAB.
- Prototype selection methods for generalized dissimilarity representations based on multiscale dissimilarities in MATLAB.
- Head scientist of the project face recognition in uncontrolled environments.
- Method for low-resolution face recognition based on improved dissimilarity representations in MATLAB.
- Method for face recognition in video based on Metric Learning in MATLAB
- Method for face sketch recognition based on discriminative bag of visual words in MATLAB

## Extracurricular Activity

---

## **CENATAV delegation for the Cuban Association for Mathematics and Computer Science**

*La Habana, Cuba*

VICE-PRESIDENT

2015 - PRESENT

- Participation in annual meetings, reports of results from institution.

## **DATYS scientific council**

*La Habana, Cuba*

MEMBER

2014 - PRESENT

- Participation in monthly meetings.

## **Computer Science**

*La Habana, Cuba*

UNDERGRADUATE THESIS TUTORING AND CO-TUTORING

2007 - PRESENT

- Thesis title: "Tools for access control in borders: Face recognition algorithms" student: Yadira Condes Molleda, CENATAV, 2007.
- Thesis title: "Face landmarks detection", student: Nelson Méndez Llanes. Havana University, 2013.
- Thesis title: "Shoulder alignment and hat detection in face images for image quality assessment", student: Jesús Pérez Martín. Havana University, 2015.
- Thesis title: "Face Recognition by Deep Learning", student: Leyanis Lopez. Havana University, 2016.

## **Computer Science**

*La Habana, Cuba*

UNDERGRADUATE THESIS COMMITTEE

2007 - 2015

- Participation in 2 committees as opponent and one committee as member, 2007.
- Participation in 2 committees as opponent, 2015.

## **Honors & Awards**

---

### INTERNATIONAL

- 2013 **Mention**, Software Quality Award. For the quality of the system "multi-biometric platform for criminal investigation." International workshop on informatics.

*La Habana, Cuba*

### DOMESTIC

- 2012 **Annual Award**, Award to the best scientific work: "Computational tools for face recognition". Cuban Academy of Sciences.

*La Habana, Cuba*

- 2012 **Annual Award**, Award to the best scientific work: "Computational tools for face recognition". Ministry of interior.

*La Habana, Cuba*

## **Presentation**

---

### **15th anual conference of the advanced school for computing and imaging (ASCI 2009)**

*The Netherlands*

CONFERENCE POSTER

2009

- "Dissimilarity representations for thermal signature recognition at a distance".

### **XIV Iberoamerican conference on pattern recognition (CIARP 2009)**

*Mexico*

CONFERENCE POSTER

2009

- "A Study on Representations for Face Recognition from Thermal Images".

### **20th International Conference on Pattern Recognition (ICPR'10)**

*Turkey*

CONFERENCE PRESENTATION

2010

- "Prototype Selection for Dissimilarity Representation by a Genetic Algorithm".

### **X Iberoamerican conference on pattern recognition (CIARP 2012)**

*Argentina*

CONFERENCE POSTER

2012

- "On Using Asymmetry Information for Classification in Extended Dissimilarity Spaces".

### **Similarity-Based Pattern Recognition, Second International Workshop, SIMBAD 2013**

*United Kingdom*

CONFERENCE PRESENTATION

2012

- "On the Informativeness of Asymmetric Dissimilarities".

## XI Iberoamerican conference on pattern recognition (CIARP 2013)

Cuba

CONFERENCE POSTER

2013

- “Towards Cluster-Based Prototype Sets for Classification in the Dissimilarity Space”.

## Joint IAPR International Workshop on Statistical Techniques in Pattern Recognition (SPR 2014), Structural, Syntactic and Statistical Pattern Recognition S+SSPR 2014, Finlandia 2014

Finland

CONFERENCE POSTER

2014

- “Towards Scalable Prototype Selection by Genetic Algorithms with Fast Criteria”.

## Writing

---

### CENATAV, TUDELFT

La Habana, Cuba

PUBLISHED PAPERS

2016

- Mairelys Hernández-Durán and Yenisel Plasencia-Calaña. Metric learning for low resolution face recognition. Revista RCCI ext RECPAT 2016
- Jesús Pérez Martín, Yenisel Plasencia Calaña. Hat detection in face images with uniform background. Revista RCCI ext RECPAT 2016
- Low resolution face recognition by the dissimilarity representation. Informática 2016
- Jesús Pérez Martín, Yenisel Plasencia Calaña and Heydi Méndez Vázquez. Face image quality assessment: shoulders alignment and hat presence. Informática 2016

### CENATAV, TUDELFT

La Habana, Cuba

PUBLISHED PAPERS

2015

- Mairelys Hernández Durán, Heydi Méndez-Vázquez, Yenisel Plasencia-Calaña. State-of-the-art in Low-resolution Face Recognition. RNPS No.2142 ISSN 2072-6287, 2015.
- Mairelys Hernández-Durán, Veronika Cheplygina and Yenisel Plasencia-Calaña. Dissimilarity Representations for Low-Resolution Face Recognition. To appear in the proceedings of the 3rd International Workshop on Similarity-Based Pattern Analysis and Recognition (SIMBAD 2015).
- Yenisel Plasencia Calaña. PhD thesis: “Prototype selection for classification in standard and generalized dissimilarity spaces”, 2015. ISBN: 978-94-6295-348-2, Published by: Uitgeverij BOXPress, 's-Hertogenbosch. The Netherlands
- Mairelys Hernández-Durán and Yenisel Plasencia-Calaña. Metric learning for low-resolution face recognition. RECPAT 2015
- Shoulder alignment in face images with uniform background. RECPAT 2015
- Hat detection in face images with uniform background. RECPAT 2015

### CENATAV, TUDELFT

La Habana, Cuba

PUBLISHED PAPERS

2014

- Nelson Méndez Llanes, Leonardo Chang, Yenisel Plasencia-Calaña, Heydi Méndez-Vázquez. Face landmarks detection using an improved ASM local description. RECPAT 2014.
- Mairelys Hernández Durán, Heydi Méndez-Vázquez, Yenisel Plasencia-Calaña. Current trends in low-resolution face recognition. RECPAT 2014 (in spanish).
- Maria De Marsico, Daniel Riccio, Heydi Méndez Vázquez and Yenisel Plasencia-Calaña. GETSEL: Gallery Entropy for Template SElection on Large datasets. IEEE International Joint Conference on Biometrics (IJCB 2014), At Clearwater, Florida, USA.
- Yenisel Plasencia-Calaña, Mauricio Orozco-Alzate, Heydi Méndez-Vázquez, Edel García-Reyes, Robert P. W. Duin. Towards Scalable Prototype Selection by Genetic Algorithms with Fast Criteria. In: Joint IAPR International Workshop on Statistical Techniques in Pattern Recognition (SPR 2014), Structural, Syntactic and Statistical Pattern Recognition S+SSPR 2014, August 20-22, 2014. Joensuu, Finland. Pasi Franti, et al. (Eds.), LNCS, Vol. 8621, 2014, pp. 343-352. Berlin Heidelberg, Springer-Verlag, 2014.

### CENATAV, TUDELFT

La Habana, Cuba

PUBLISHED PAPERS

2013

- Yenisel Plasencia-Calaña, M. Orozco-Alzate, E. Garcia-Reyes, and Robert P. W. Duin. Selecting feature lines in generalized dissimilarity representations for pattern recognition. Digital Signal Processing, vol. 23, no. 3, 2013, 902-911.
- Yenisel Plasencia-Calaña, Veronika Cheplygina, Robert P. W. Duin, Edel García-Reyes, Mauricio Orozco-Alzate, David M J Tax, Marco Loog. On the Informativeness of Asymmetric Dissimilarities, Similarity-Based Pattern Recognition, Second International Workshop, SIMBAD 2013, Edwin Hancock and Marcello Pelillo (Eds.). LNCS 7953, pp. 75–89. Springer, Heidelberg (2013)
- Yenisel Plasencia-Calaña, Mauricio Orozco-Alzate, Edel García-Reyes, and Robert P. W. Duin. Towards Cluster-Based Prototype Sets for Classification in the Dissimilarity Space. CIARP 2013, Part I, J. Ruiz-Shulcloper and G. Sanniti di Baja (Eds.), LNCS 8258, pp. 294–301. Springer, Heidelberg (2013)
- Nelson Méndez, Leonardo Chang, Yenisel Plasencia-Calaña, Heydi Méndez-Vázquez. Facial Landmarks Detection using Extended Profile LBP-based Active Shape Models. CIARP 2013, Part I, J. Ruiz-Shulcloper and G. Sanniti di Baja (Eds.), LNCS 8258, pp. 294–301. Springer, Heidelberg (2013)
- Veronika Cheplygina, Yenisel Plasencia-Calaña, Robert P. W. Duin, Edel Garcia-Reyes, Mauricio Orozco-Alzate, David Tax and Marco Loog. On Asymmetry in Dissimilarities. Benelux conference on artificial intelligence (2013).

## CENATAV, TUDELFT

*La Habana, Cuba*

PUBLISHED PAPERS

2012

- Yenisel Plasencia-Calaña, Edel Garcia Reyes, Robert P. W. Duin, and Mauricio Orozco-Alzate. On Using Asymmetry Information for Classification in Extended Dissimilarity Spaces. Progress in Pattern Recognition, Image Analysis, Computer Vision, and Applications Lecture Notes in Computer Science Volume 7441, 2012, pp 503-510. ISBN: 978-3-642-33275-3
- Yoanna Martínez-Díaz, Heydi Méndez-Vázquez, Yenisel Plasencia-Calaña, Edel Garcia Reyes. Dissimilarity Representations based on Multi-Block LBP for face detection, 17th Iberoamerican Congress in Pattern Recognition CIARP 2012 LNCS 7441, pp. 106–113. Springer, (2012).

## CENATAV, TUDELFT

*La Habana, Cuba*

PUBLISHED PAPERS

2011

- César San Martín, Roberto Carrillo, Pablo Meza, Heydi Méndez Vázquez, Yenisel Plasencia-Calaña, Edel Garcia Reyes, Gabriel Hermosilla. Recent Advances on Face Recognition using Thermal Infrared Images. Reviews, Refinements and New Ideas in Face Recognition, Peter M. Corcoran (Ed.) (2011), ISBN: 978-953-307-368-2, InTech.
- Yenisel Plasencia-Calaña, Edel Garcia Reyes, Robert P. W. Duin, and Mauricio Orozco-Alzate. A New Method for Prototype Selection in Dissimilarity Spaces. RECPAT 2011, cd memorias de COMPUMAT 2011, ISBN 978-959-250-658-9.

## CENATAV, TUDELFT

*La Habana, Cuba*

PUBLISHED PAPERS

2010

- Yenisel Plasencia-Calaña, Edel Garcia Reyes. Subspaces and manifolds for illumination insensitive face recognition. RNPS No.2142 ISSN 2072-6287, 2010
- Yenisel Plasencia-Calaña, Edel Garcia Reyes, Mauricio Orozco Alzate, Robert P. W. Duin. Prototype Selection Methods for Dissimilarity Space Classification. RNPS No.2142 ISSN 2072-6287, 2010.
- Yenisel Plasencia-Calaña, Edel Garcia Reyes, Mauricio Orozco Alzate, Robert P. W. Duin. Prototype Selection for Dissimilarity Representation by a Genetic Algorithm. Proceedings of the 20th IEEE International Conference on Pattern Recognition (ICPR'10), ISBN: 978-1-4244-7542-1.

## CENATAV, TUDELFT

*La Habana, Cuba*

PUBLISHED PAPERS

2009

- Yenisel Plasencia-Calaña, Edel Garcia Reyes, Robert P. W. Duin, Heydi Mendez, César San Martín, and Claudio Soto. Dissimilarity representations for thermal signature recognition at a distance. Proceedings of the fifteenth annual conference of the Advanced School for Computing and Imaging 2009, ISBN/EAN:978-90-810849-4-9.
- Yenisel Plasencia-Calaña, Edel Garcia Reyes, Robert P. W. Duin, Heydi Mendez, César San Martín, and Claudio Soto. A Study on Representations for Face Recognition from Thermal Images. Progress in Pattern Recognition, image analysis and applications: 14th Iberoamerican Congress on Pattern Recognition, CIARP 2009. LNCS 5856, ISBN 978-3-642-10267-7.
- Heydi Méndez-Vázquez, César San Martín, Josef Kittler, Yenisel Plasencia-Calaña and Edel García-Reyes. Face Recognition with LWIR Imagery using Local Binary Patterns. Proceedings of the IAPR International Conference on Biometrics (ICB-2009). Advances in Biometrics, LNCS 5558, 327-336.

## CENATAV

*La Habana, Cuba*

PUBLISHED PAPERS

2007

- Heydi Méndez-Vázquez, Yenisel Plasencia-Calaña, Francisco José Silva Mata, and Yadira Condes Molleda. A rank based classifier combination to improve face recognition. Memorias de RECPAT 2007, ISBN 978-959-286-006-3.

## Program Committees

---

2013	<b>Reviewer for journal</b> , International Journal of Machine Learning and Cybernetics	<i>Cuba</i>
2013	<b>Reviewer for conference</b> , International conference on pattern recognition	<i>Mexico</i>
2015	<b>Reviewer for journal</b> , Pattern Recognition Letters	<i>Cuba</i>
2015	<b>Reviewer for journal</b> , Neurocomputing	<i>Cuba</i>
2015	<b>Reviewer for journal</b> , Neural Computing and Applications	<i>Cuba</i>