Mojdeh Rastgoo

Le2i - Laboratoire Electronique, Inofrmatique et Image

Education

Research

2016 - 2018 **Post-doctoral research**, *Université de Bourgogne, Le2i, Le Creusot(France).*

Title *ANR project - Polarimetric Vision Applied to Robotics Navigation (VIPeR)*

Studies

2012 - 2016 **Co-joined PhD candidate**, *Universitat de Girona,Girona (Spain), Université de Bourgogne, Le Creusot (France).*

Supervisors Dr. Franck Marzani, Dr. Rafael Garcia, Dr. Olivier Morel

Title *An Approach to Melanoma Classification Exploiting Polarization Information*

Description Developing a classification framework for automatic detection of melanoma lesions while exploiting polarization properties beyond cross-polarized dermoscopes. Using our new polarized dermoscope it was our interest to find new features for classification of melanoma and new techniques for screening of this pigmented lesion.

2009 - 2011 **Erasmus Mundus Master in Vision and Robotics (ViBOT)**, *Heriot -Watt University, Edinburgh (Scotland); Univeristat de Girona, Girona (Spain); Université de Bourgogne, Le Creusot (France).*

- 2:1 Class Hounor (Mention Bien)

- Master thesis (Universitat de Girona):

Title *Change Detection in Epiluminescent Microscopy for Early Detection of Skin Cancer*

Supervisor Dr. Rafael Garcia

Description Implementing a new computer aided system in order to detect changes, segment and characterize epiluminescent microscopy images

2005 - 2009 **Bachelor of Electrical and Electronics Engineering**, *University Teknologi PETRONAS, Ipoh (Malaysia).*

- 1^{st} Class Hounor, CGPA: 3.64/4.00

Summer schools

July 2014 **Medical Imaging Summer School (MISS)**, *Favignana, Italy.*

Scholarships

2009-2011 **Erasmus Mundus Master Scholarship**.

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Université de Bourgogne

European master in Vision and Robotics

2005- 2009 **PETRONAS Bachelor scholarship**.

Bachelor of Electrical and Electronics Engineering

Experience

2017-2018 **Vacations**, *Introduction to Image Processing, Machine learning, SymPy*, Université de Bourgogne - Le Creusot - (France).

2016-2017 **Vacations**, *Introduction to Image Processing, Digital Signal Processing, Maple*, Université de Bourgogne - Le Creusot - (France).

2012-2014 **Vacations**, *Imagerie médicale*, Universitat de Girona - Girona - (Spain).
- Introduction des méthodes de mise en correspondance et d'alignement en utilisant ITK.
- Introduction à la segmentation en utilisant MevisLab.
- Segmentation and delineation of melanoma lesions.

2011-2012 **External researcher**, *Data mining and classification*, Barcelona Digital - Barcelona (Spain).
- Developing a method for continous learning and pruning the classifiers.

2010 **Internship**, *Astronomical image analysis, segmentation and localization of astronomical objects.*, Universitat de Girona - Girona (Spain).

2007 **Internship**, *Oil and Gas platform designers*, Ranhill Worley Parsons Sdn Bhd - Kuala Lumpur (Malaysia).
- Power and electrical department.
- Designing lightning protections systems for structures.

Languages

English Fluent in all skills

French intermédiaire

Spanish Basic- Level 2

Arabic Basic

Persian Advanced Level *Mother tongue*

Computer skills

OS Linux/Unix, Windows

Programming Matlab, Python, OpenCV, C/C++, ROS

Typography LATEX, Microsoft Office, Open Office

Publication

Journal

M. Rastgoo, O. Morel, F. Marzani and R. Garcia, "Automatic Differentiation of Melanoma from Dysplastic Nevi", *Computerized Medical Imaging and Graphics*, vol.43, pp 44-52, 2015

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D. Sidibe, S. Sankar, G. Lemaitre, M. Rastgoo, J. Massich, C. Y. Cheung, G. S. W. Tan, D. Milea, E. Lamoureux, T. Y. Wong, and F. Meriaudeau, "An anomaly detection approach for the identification of DME patients using SD-OCT images", *Computer Methods and Programs in Biomedicine*, vol. 139, pp. 109-117, February 2017

G. Lemaitre, M. Rastgoo, J. Massich, C. Y. Cheung, T. Y. Wong, E. Lamoureux, D. Milea, F. Meriaudeau, and D. Sidibe, "Classification of SD-OCT Volumes using Local Binary Patterns: Experimental Validation for DME detection", *Journal of Ophthalmology*, vol. 2016, May 2016

K. Alsaih, G. Lemaitre, M. Rastgoo, J. Massich, D. Sidibe, and F. Meriaudeau, "Machine learning techniques for diabetic macular edema (DME) classification on SD-OCT images ", *BioMedical Engineering online*, vol. 16(1), pp. 68-80, June 2017

International Conferences

G. Lemaitre, R. Marti,M. Rastgoo, and F. Meriaudeau,"Computer-Aided Detection for Prostate Cancer Detection based on Multi-Parametric Magnetic Resonance Imaging", *EMBC, 2017*, Jeju Island: Korea (August 2017)

J. Massich, M. Rastgoo, G. Lemaitre, C. Cheung, T. Y. Wong, D. Sidibe, and F. Meriaudeau,"Classifying DME vs normal SD-OCT volumes: A review", *ICPR, 2016*, Cancun: Mexico (December 2016)

D. Sidibe, M. Rastgoo, F. Meriaudeau,"On Spatio-Temporal Saliency Detection in Videos using Multilinear PCA", *ICPR, 2016*, Cancun: Mexico (December 2016)

K. Alsaih, G. Lemaitre, J. Massich, M. Rastgoo, D. Sidibe, T. Y. Wong, E. Lamoureux, D. Milea, C. Leung, and F. Meriaudeau,"Classification of SD-OCT volumes with multi-pyramids, LBP and HoG descriptors: Application to DME detection", *EMBC, 2016*, Orlando: USA (August 2016)

M. Rastgoo, G. Lemaitre, J. Massich, O.Morel, F. Marzani, R. Garcia and F. Meriaudeau, "Study of Data Imbalancing for Melanoma Classification", 3^{rd} *International Conference on BIOIMAGING 2016.* Rome: Italy (February 2016)

M. Rastgoo, G. Lemaitre, O.Morel, J. Massich, F. Marzani, R. Garcia and D. Sidibe, "Classification of melanoma lesions using sparse coded features and radnom forests", *SPIE Medical Imaging 2016.* San Diego: USA (February 2016)

G. Lemaitre, M. Rastgoo, J. Massich, J. C. Vilanova, P. M. Walker, J. Freixenet, A.Meyer-Baese, F. Meriaudeau, and R. Marti, "Normalization of T2W-MRI prostate images using Rician a priori", *SPIE Medical Imaging 2016.* San Diego: USA (February 2016)

A. Meyer-Baese, J. Massich, G. Lemaitre, and M. Rastgoo, "Real-Time Optical Flow with Theoretically Justified Warping Applied to Medical Imaging", *Breast Image Analysis Workshop (BIA), Medical Image Computing and Computer Assisted Interventions (MICCAI) 2015.* Munich: Germany (October)

J. Massich, G. Lemaitre, M. Rastgoo, A. Meyer-Baese, J. Marti and F. Meriaudeau, "An Optimization Approach to Segment Breast Lesions in Ultra-Sound Images using Clinically Validated Visual Cues", *Breast Image Analysis Workshop (BIA), Medical Image Computing and Computer Assisted Interventions (MICCAI) 2015.* Munich: Germany (October)

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G. Lemaitre, M. Rastgoo, J. Massich, S. Sankar, F. Meriaudeau and D. Sidibe, "Classification of SD-OCT volumes with LBP: application to DME detection", *Ophthalmic Medical Image Analysis Workshop (OMIA), Medical Image Computing and Computer Assisted Interventions (MICCAI) 2015.* Munich: Germany (October)

M. Rastgoo, O. Morel, F. Marzani and R. Garcia, "Ensemble Approach for Differentiation of Malignant Melanoma", *International Conference on Quality Control and Artificial Vision (QCAV) 2015.* Le Creusot: France (June 2015)

M. Rastgoo, G. Lemaitre, X. Rafael, F. Miralles and P. Casale, "Pruning AdaBoost for Continuous Sensors Mining Applications", *Ubiquitous Data Mining Workshop, 20th European Conference in Artificial Intelligence 2012.* Montpellier: France(August 2012)

P. Casale, J.M Fernandez, X. Rafael, S. Torrellas, M. Rastgoo, F. Miralles, "Enhancing User Experience with Brain Neural Computer Interface in Smart Home Environment", *8th IEEE International Conference of Intelligent Environments 2012.* INTENV12, June 2012

Technical Reports

M. Rastgoo, "An Approach to Melanoma Classification Exploiting Polarization Information", *Universitst de Girona, Université de Bourgogne.* 2016

M. Rastgoo and R. Garcia, "Change Detection in Epiluminescent Microscopy for Early Detection of Skin Cancer", *Universitst de Girona, Université de Bourgogne, Heriot Watt University.* 2011

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