

# Olivier Lézoray

FULL PROFESSOR OF COMPUTER SCIENCE · UNIVERSITY OF CAEN NORMANDY

Teaching<sup>1</sup> : Cherbourg Institute of Technology, Multimedia and Internet Department, 120 Rue de l'exode, F-50000 SAINT-LÔ, France

Research<sup>2</sup> : GREYC UMR CNRS 6072, Image Team, ENSICAEN, 6 Bd. Marechal Juin, F-14000 CAEN, France

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## Personal Information

**Last name** Lézoray  
**First name** Olivier  
**Birth date** September 12, 1972  
**Birth place** Lannion, Brittany, France  
**Nationality** French  
**Marital Status** Married, three childrens  
**Society Memberships** IEEE (Senior Member), EURASIP, IAPR, GFINC



## Education

### University of Caen Normandy

HABILITATION THESIS IN COMPUTER SCIENCE, GRADUATED WITH HONORS

- Image processing by discrete models on graphs and image data classification by machine learning

Caen, France

2007

### University of Caen Normandy

PH.D. THESIS IN COMPUTER SCIENCE, GRADUATED WITH HIGHEST HONORS

- Color Image Morphological Segmentation and Data Classification with neural networks : application to cellular sorting in serous cytology

Caen, France

1997-2000

### University of Caen Normandy

MASTER IN COMPUTER SCIENCE (ALGORITHMICS, ARTIFICIAL INTELLIGENCE), GRADUATED WITH HONORS

Caen, France

1994-1995

### University of Caen Normandy

BACHELOR OF SCIENCE IN MATHEMATICS AND COMPUTER SCIENCE

Caen, France

1993

## Professional Appointments

### Cherbourg Institute Of Technology, University of Caen Normandy

FULL PROFESSOR OF COMPUTER SCIENCE, MULTIMEDIA AND INTERNET DEPARTMENT

Saint-Lô, France

2009-

### Cherbourg Institute Of Technology, University of Caen Normandy

ASSOCIATE PROFESSOR OF COMPUTER SCIENCE, COMMUNICATION NETWORKS AND SERVICES DEPARTMENT

Cherbourg, France

2000-2009

### Computer Science Department, University of Caen Normandy

ASSISTANT PROFESSOR OF COMPUTER SCIENCE

Caen, France

1999-2000

### French National League against Cancer

PH.D. STUDENT AND TEACHING ASSISTANT OF COMPUTER SCIENCE

Cherbourg, France

1997-2000

### 501-503th Regiment of tanks

MILITARY SERVICE, FRENCH ARMY, RANK : MASTER CORPORAL

Mourmelon-le-Grand, France

1996

## Skills

**Teaching** Object Oriented Programming, Web Development, Image Processing, Machine Learning  
**Research** Graph-based signal processing, adaptive and multidimensional mathematical morphology, and machine learning  
**Applications** Computational Photography, Computer-Aided Diagnosis  
**Programming** C++, C, Java, R, Python  
**Web Development** HTML, CSS, JavaScript, Php, SQL  
**Certifications** Google - Fundamentals of digital Marketing (26 modules, 40 hours), CNIL - GDPR Workshop MOOC  
**Languages** French (native speaker), English (near native / fluent), German and Spanish (basic communication skills), Japanese (beginner)  
**Sports** Judo (Black Belt First Dan), Running, Cardio training, Cross Fit, Tennis

## Responsibilities

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### UNIVERSITY

2022-	<b>Deputy Director of the GREYC research laboratory</b> , University of Caen Normandy	Caen, France
2019-	<b>Project manager of partnership relations for the GREYC research laboratory</b> , University of Caen Normandy	Caen, France
2015-2021	<b>Head of the Multimedia and Internet Department</b> , Cherbourg Institute Of Technology, University of Caen Normandy	Saint-Lô, France
2012-	<b>Member of the GREYC research laboratory council</b> , University of Caen Normandy	Caen, France
2011-2021	<b>Head of the Committee of Computer Science Professors</b> , University of Caen Normandy	Caen, France
2008-2016	<b>Chair of the Institute Research Committee</b> , Cherbourg Institute Of Technology, University of Caen Normandy	Cherbourg, France
2009-2011	<b>Director of Graduate Studies - Communication Networks and Services Department</b> , Cherbourg Institute Of Technology, University of Caen Normandy	Saint-Lô, France
2009-2018	<b>Member of the institute council</b> , Cherbourg Institute Of Technology	Cherbourg, France
2007-2009	<b>Deputy Head of the Committee of Computer Science Professors</b> , University of Caen Normandy	Caen, France
2000-2006	<b>Director of Graduate Studies - Communication Networks and Services Department</b> , Cherbourg Institute Of Technology, University of Caen Normandy	Saint-Lô, France
2000-	<b>Supervision of 14 Ph.D. and 5 Post -Doc Students</b> , University of Caen Normandy	Caen, France

### NATIONAL

	<b>National research evaluation</b> , French National Research Agency (2015-), High Council for Evaluation of Research and Higher Education (2017), Technological Research Agency (2012-2015), Université Cote d'Azur (2017), Région Nouvelle Aquitaine (2018)	France
	<b>Member of the organizing committees of national conferences</b> , JNCN 2008&2014, CNRIUT 2011, CORESA 2006&2017	France
	<b>Reviewer for 20 PhD and 8 Habilitation thesis committees.</b>	France
2009-2016	<b>Scientific animator in the CNRS National Research Group ISIS</b> , Color and multimodality theme	France
2018-2021	<b>Referee for the "Web Design and Development" skill</b> , WorldSkills France	France

### INTERNATIONAL

	<b>International research evaluation</b> , United States-Israel Binational Science Foundation (2017), UK Medical Research Council (2013, 2014), Marie-Curie European Post-Doctoral Fellowship (2016-), Netherlands Organisation for Scientific Research (2017)	
	<b>Program Chair of International Conferences</b> , ICISP 2008, 2010, 2012, and 2014	
	<b>Co-organization of International Conferences</b> , ICISP 2008, 2010, 2012, and 2014	
	<b>Reviewer for major international conferences and journals of the field</b> , See publons profile at <a href="https://publons.com/author/786085/olivier-lezoray">https://publons.com/author/786085/olivier-lezoray</a>	
2010-	<b>IEEE Multimedia Communications Technical Committee (MMTC) Member</b>	
2008-2016	<b>EURASIP Local Liaison Officer</b>	

## Editorial activities

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### Associate Editor

IEEE TRANSACTIONS ON SIGNAL PROCESSING	2016-2019
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### Associate Editor

IET IMAGE PROCESSING	2013-
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### Guest Editor of special issues in international journals

SIGNAL PROCESSING : IMAGE COMMUNICATION (2021), JOURNAL OF ELECTRONIC IMAGING (2017), SIGNAL IMAGE AND VIDEO PROCESSING (2016), COMPUTERIZED MEDICAL IMAGING AND GRAPHICS (2011), SIGNAL PROCESSING (2010), EURASIP JOURNAL ON ADVANCES IN SIGNAL PROCESSING (2008)

### Editor of Proceedings

ICISP 2008, 2010, 2012, 2014 PROCEEDINGS - LNCS VOLUMES NUMBER 8509, 7340, 6134, 5099

### Editor of the book on "Image Processing and Analysis with Graphs : Theory and Practice"

PUBLISHER : CRC PRESS / TAYLOR AND FRANCIS, SERIES : DIGITAL IMAGING AND COMPUTER VISION	2012
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## Visiting Positions

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### Brown University

VISITING SCIENTIST, INSTITUTE FOR COMPUTATIONAL AND EXPERIMENTAL RESEARCH IN MATHEMATICS	Providence, USA
• Workshop "Semidefinite Programming and Graph Algorithms" of the semester program on "Network Science and Graph Algorithms"	February 10-15, 2014

### Universities of Oslo and Bergen

VISITING RESEARCH FELLOW (ASGARD PROGRAM OF THE FRENCH EMBASSY)	Norway
	September 23-29, 2012

## University of Alicante

VISITING PROFESSOR (ERASMUS FACULTY EXCHANGE PROGRAM)

Alicante, Spain

April 14-21, 2012

## University of Sydney

VISITING RESEARCH FELLOW

Sydney, Australia

July, 2008

## Honors & Awards

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### NATIONAL

- 2013 **Best paper award**, Conference COmpression et REprésentation des Signaux Audiovisuels *Le Creusot, France*  
2006- **Premium for distinguished research activity**, Ministry of Education *France*

### INTERNATIONAL

- 2017 **IEEE Senior Member**, Elevation to the grade of *USA*  
2016 **Sentinel of Science Award**, Recognized as one of the top 10% of researchers contributing to the peer review of the field of Computer Science *USA*  
2014 **Best paper Award finalist**, IEEE International Conference on Image Processing, for the paper "Graph signal decomposition for multi-scale detail manipulation" authored by M. Hidane, O. Lézoray, A. Elmoataz, *Paris, France*  
2013 **Laureate of the Asgard Research Fellowship**, French-Norwegian Foundation for scientific and technical research and industrial development *Oslo, Norway*  
2008 **IBM Best student paper award**, IEEE International Conference on Image Processing, for the paper "Partial difference equations on graphs for mathematical morphology operators over images and manifolds" authored by V.-T. Ta, A. Elmoataz, O. Lézoray *San Diego, USA*

## Research grants

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### NORMANDY REGIONAL COUNCIL

- 2016-2018 **Graph Signal Processing for 3D colored Point Clouds**. Total award : 215593€, Role : Principal Investigator *France*  
2013-2015 **Software optimization of gynecological cytology**. Total award : 139580€, Role : Co-Investigator *France*  
2010-2012 **Automated cellular Sorting validation in tumoral cytopathology**. Total award : 270000€, Role : Co-Investigator *France*  
2007-2008 **Cytological Image Analysis software**. Total award : 120000€, Role : Principal Investigator *France*  
2005-2006 **Passport photographs on mobile devices**. Total award : 4000€, Role : Principal Investigator *France*

### FRENCH NATIONAL RESEARCH AGENCY

- 2018-2020 **HomeKeeper - A smart and vocal home assistant to distribute goods & services and ensure its end-to-end realization** Total award : 3M€, Role : participant *France*  
2015-2018 **Graph Signal Processing**. Total award : 498509€, Role : Principal Investigator *France*  
2011-2015 **Compact professional stereoscopic camera for 3D Shooting in television and cinema**. Role : Participant *France*  
2011-2014 **Innovative solution for screening and monitoring in vivo cancer skin, standardized for general practitioners and specialists**. Total award : 1860487€, Role : Co-Investigator *France*  
2007-2010 **Mining large microscopic breast whole slide images**. Total award : 286000€, Role : Principal Investigator *France*

### INTERNATIONAL

- 2022-2024 **Exploitation of 3D colored meshes by convolution networks- a Hubert Curien Toubkal Project** Total award : 46000€, Role : Participant *Morocco-France*  
2019-2021 **dermato.ai - a Hubert Curien Tassili Project** Total award : 46000€, Role : Principal Investigator *Algeria-France*  
2017-2018 **Nvidia Academic Hardware Grant scheme : Editing of 3D colored meshes** Total award : a Nvidia GPU Titan Graphic Card, Role : Principal Investigator *USA*

## Teaching experience

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### Bachelor of Science Level

*Saint-Lô, France*

MULTIMEDIA AND INTERNET DEPARTMENT, CHERBOURG INSTITUTE OF TECHNOLOGY, UNIVERSITY OF CAEN NORMANDY

Office Tools (2000-2009), Databases (2000-2009), Image Processing (2003-), Operating Systems (2000-2015), Algorithms and Data Structures (2000-), Web front and back end development (2002-), Web Design (2000-2001), Object Oriented Programming (2015-), Mobile Android Programming (2016-)

### Master of Science Level

*Caen, France*

COMPUTER SCIENCE DEPARTEMENT, UNIVERSITY OF CAEN NORMANDY

Machine Learning

2003-

PUBLICATIONS (available at <a href="https://lezoray.users.greyc.fr/publicationsList.php">https://lezoray.users.greyc.fr/publicationsList.php</a> )	NUMBER
<b>Books</b>	<b>2</b>
<b>Edited Proceedings and Special issues</b>	<b>10</b>
<b>Book Chapters</b>	<b>11</b>
<b>International Journals</b>	<b>49</b>
<b>International Conferences</b>	<b>120</b>
<b>Software Licences</b>	<b>6</b>

## Books

- [1] O. Lézoray and L. Grady, *Image Processing and Analysis with Graphs : Theory and Practice*, Digital Imaging and Computer Vision. CRC Press / Taylor and Francis, 2012.
- [2] Q. Sun, O. Lézoray, and L. Grady, *图像处理与分析的图论方法* (Translation in Chinese of "Image Processing and Analysis with Graphs : Theory and Practice" of O. Lézoray and L. Grady), National Defense Industry Press of China / CRC Press, 2017.

## Articles in international journals

- [1] O. Lezoray, A. Elmoataz, H. Cardot, G. Gougeon, M. Lecluse, H. Elie, and M. Revenu, "Segmentation of cytological images using color and mathematical morphology," *Acta Stereologica*, vol. 18, no. 1, pp. 1–14, 1999, Selected papers of the 7th European Congress of Stereology.
- [2] O. Lezoray, A. Elmoataz, H. Cardot, and M. Revenu, "Segmentation of color images from serous cytology for an automatic cellular classification," *Analytical and quantitative cytology and histology*, vol. 22, no. 4, pp. 311–323, 2000.
- [3] O. Lezoray and H. Cardot, "A neural network architecture for data classification," *International Journal of Neural Systems*, vol. 11, no. 1, pp. 33–42, 2001.
- [4] O. Lezoray and H. Cardot, "Cooperation of color pixel classification schemes and color watershed : a study for microscopical images," *IEEE transactions on Image Processing*, vol. 11, no. 7, pp. 783–789, 2002.
- [5] O. Lezoray, A. Elmoataz, and H. Cardot, "A color object recognition scheme : application to cellular sorting," *Machine Vision and Applications*, vol. 14, pp. 166–171, 2003.
- [6] O. Lezoray, "Supervised automatic histogram clustering and watershed segmentation. application to microscopic medical images," *Image Analysis and Stereology*, vol. 22, pp. 113–120, 2003.
- [7] C. Meurie, G. Lebrun, O. Lezoray, and A. Elmoataz, "A comparison of supervised pixels-based color image segmentation methods. application in cancerology," *WSEAS Transactions on Computers*, vol. 2, no. 3, pp. 739–744, jul 2003, ISSN 1109-2750.
- [8] O. Lezoray, D. Fournier, and H. Cardot, "Neural network induction graph for pattern recognition.," *Neurocomputing*, vol. 57, pp. 257–274, 2004.
- [9] C. Meurie, O. Lezoray, C. Charrier, and A. Elmoataz, "Combination of multiple pixel classifiers for microscopic image segmentation," *International Journal of Robotics and Automation*, vol. 20, no. 2, pp. 63–69, 2005, Special issue on Colour Image Processing and Analysis for Machine Vision, ISSN 0826-8185.
- [10] C. Charrier, G. Lebrun, and O. Lezoray, "Evidential segmentation of microscopic color images with pixel classification posterior probabilities," *Journal of Multimedia*, vol. 2, no. 3, pp. 57–65, 2007.
- [11] G. Lebrun, C. Charrier, O. Lezoray, and H. Cardot, "A fast and efficient segmentation scheme for cell microscopic image," *Cellular and Molecular Biology*, vol. 53, Biomedical Signal and Image Processing Series, no. 2, pp. 51–61, 2007.
- [12] O. Lezoray and M. Lecluse, "Automatic segmentation and classification of cells from broncho alveolar lavage," *Image Analysis and Stereology*, vol. 26, pp. 111–119, 2007.
- [13] O. Lezoray, A. Elmoataz, and S. Bougleux, "Graph regularization for color image processing," *Computer Vision and Image Understanding*, vol. 107, no. 1-2, pp. 38–55, 2007.
- [14] A. Elmoataz, O. Lezoray, and S. Bougleux, "Nonlocal discrete p-laplacian driven image and manifold processing," *Comptes Rendus de l'Académie des Sciences - Mécanique*, vol. 336, no. 5, pp. 428–433, 2008.
- [15] A. Elmoataz, O. Lezoray, and S. Bougleux, "Nonlocal discrete regularization on weighted graphs : a framework for image and manifold processing," *IEEE Transactions on Image Processing*, vol. 17, no. 7, pp. 1047–1060, 2008.
- [16] G. Lebrun, C. Charrier, O. Lezoray, and H. Cardot, "Tabu search model selection for SVM," *International Journal of Neural Systems*, vol. 18, no. 1, pp. 19–31, 2008.
- [17] O. Lezoray and H. Cardot, "Comparing combination rules of pairwise neural networks classifiers," *Neural Processing Letters*, vol. 27, no. 1, pp. 43–56, 2008.
- [18] O. Lezoray, C. Meurie, and A. Elmoataz, "Graph-based ordering scheme for color image filtering," *International Journal of Image and Graphics*, vol. 8, no. 3, pp. 473–493, July 2008.
- [19] O. Lezoray and C. Charrier, "Color image segmentation using morphological clustering and fusion with automatic scale selection," *Pattern Recognition Letters*, vol. 30, no. 4, pp. 397–406, 2009.
- [20] V.-T. Ta, O. Lezoray, A. Elmoataz, and S. Schupp, "Graph-based tools for microscopic cellular image segmentation," *Pattern Recognition*, vol. 42, no. 6, pp. 1113–1125, 2009.

- [21] D.-N. Truong Cong, L. Khoudour, C. Achard, C. Meurie, and O. Lezoray, "People re-identification by spectral classification of silhouettes," *Signal Processing*, vol. 90, no. 8, pp. 2362–2374, 2010.
- [22] O. Lezoray, V.-T. Ta, and A. Elmoataz, "Partial differences as tools for filtering data on graphs," *Pattern Recognition Letters*, vol. 31, no. 14, pp. 2201–2213, 2010.
- [23] B. Meftah, O. L  zoray, and A. Benyettou, "Segmentation and edge detection based on spiking neural network model," *Neural Processing Letters*, vol. 32, no. 2, pp. 131–146, 2010.
- [24] C. Meurie, O. Lezoray, L. Khoudour, and A. Elmoataz, "Morphological hierarchical segmentation and color spaces," *International Journal of Imaging Systems and Technology*, vol. 20, no. 2, pp. 167–178, 2010.
- [25] V. Roullier, O. L  zoray, V.-T. Ta, and A. Elmoataz, "Multi-resolution graph-based analysis of histopathological whole slide images : application to mitotic cell extraction and visualization," *Computerized Medical Imaging and Graphics*, vol. 35, pp. 603–615, 2011.
- [26] V.-T. Ta, A. Elmoataz, and O. L  zoray, "Nonlocal pdes-based morphology on weighted graphs for image and data processing," *IEEE Transactions on Image Processing*, vol. 20, no. 6, pp. 1504–1516, June 2011.
- [27] C. Charrier, O. L  zoray, and G. Lebrun, "Machine learning to design full-reference image quality assessment algorithm," *Signal Processing : Image Communication*, vol. 27, no. 3, pp. 209–219, 2012.
- [28] A. Elmoataz, X. Desquesnes, and O. L  zoray, "Non-local morphological pdes and p-laplacian equation on graphs with applications in image processing and machine learning," *IEEE Journal of Selected Topics in Signal Processing*, vol. 6, no. 7, pp. 764–779, 2012.
- [29] X. Desquesnes, A. Elmoataz, and O. L  zoray, "Eikonal equation adaptation on weighted graphs : fast geometric diffusion process for local and non-local image and data processing," *Journal of Mathematical Imaging and Vision*, vol. 46, no. 2, pp. 238–257, 2013.
- [30] M. Hidane, O. L  zoray, and A. Elmoataz, "Nonlinear multilayered representation of graph-signals," *Journal of Mathematical Imaging and Vision*, vol. 45, no. 2, pp. 114–137, 2013.
- [31] A. Elmoataz, X. Desquesnes, Z. Lakhdari, and O. L  zoray, "Nonlocal infinity laplacian equation on graphs with applications in image processing and machine learning," *Mathematics and Computers in Simulation*, vol. 102, pp. 153–163, 2014.
- [32] F. Lozes, A. Elmoataz, and O. L  zoray, "Partial difference operators on weighted graphs for image processing on surfaces and point clouds," *IEEE Transactions on Image Processing*, vol. 23, no. 9, pp. 3896 – 3909, 2014.
- [33] P. Buysens, M. Daisy, D. Tschumperl  , and O. L  zoray, "Exemplar-based inpainting : Technical review and new heuristics for better geometric reconstructions," *IEEE Transactions on Image Processing*, vol. 24, no. 6, pp. 1809–1824, 2015.
- [34] F. Lozes, A. Elmoataz, and O. L  zoray, "Pde-based graph signal processing for 3d color point clouds : Opportunities for cultural heritage," *IEEE Signal Processing Magazine*, vol. 32, no. 4, pp. 103–111, 2015.
- [35] A. Nouri, C. Charrier, and O. L  zoray, "Multi-scale mesh saliency with local adaptive patches for viewpoint selection," *Signal Processing : Image Communication*, vol. 38, pp. 151–166, 2015.
- [36] O. L  zoray, "Complete lattice learning for multivariate mathematical morphology," *Journal of Visual Communication and Image Representation*, vol. 35, pp. 220–235, 2016.
- [37] B. Meftah, O. L  zoray, and A. Benyettou, "Novel approach using echo state networks for microscopic cellular image segmentation," *Cognitive Computation*, vol. 8, no. 2, pp. 237–245, 2016.
- [38] P. Buysens, O. Le Meur, M. Daisy, D. Tschumperl  , and O. L  zoray, "Depth-guided disocclusion inpainting of synthesized rgb-d images," *IEEE Transactions on Image Processing*, vol. 26, no. 2, pp. 525–538, 2017.
- [39] C. Coniglio, C. Meurie, O. L  zoray, and M. Berbineau, "People silhouette extraction from people detection bounding boxes in images," *Pattern Recognition Letters*, vol. 93, pp. 182–191, 2017.
- [40] H. Yedjour, B. Meftah, O. L  zoray, and A. Benyettou, "Edge detection based on hodgkin-huxley neuron model simulation," *Cognitive Processing*, vol. 18, no. 3, pp. 315–323, 2017.
- [41] C. Meurie, O. L  zoray, C. Coniglio, and M. Berbineau, "Graph-based people segmentation using a genetically optimized combination of classifiers," *Journal of Electronic Imaging*, vol. 27, no. 5, pp. 16–47, 2018.
- [42] A. Nouri, C. Charrier, and O. L  zoray, "A genetically-based combination of visual saliency and roughness for f.r. 3d mesh quality assessment - a statistical study," *The Computer Journal*, vol. bxaa089, 2020.
- [43] J. Nicolle, P. Fleury, and O. L  zoray, "Interaction by gesture recognition : a tool to virtually revive the automata of the antiquity," *International Journal of Virtual Reality*, vol. Laval Virtual VRIC ConVRgence Proceedings 2020, pp. 110–117, 2020.
- [44] O. L  zoray, "Hierarchical morphological graph signal multi-layer decomposition for editing applications," *IET Image Processing*, vol. 14, no. 8, pp. 1549–1560, 2020.
- [45] H. Yedjour, B. Meftah, D. Yedjour, and O. L  zoray, "The hodgkin-huxley neuron model for motion detection in image sequences," *Neural Computing and Applications*, vol. to appear, 2021.
- [46] H. Kadi, M. Rebbah, B. Meftah, and O. L  zoray, "Medical decision-making based on the exploration of a personalized medicine dataset," *Informatics in Medicine Unlocked*, vol. 23, pp. 100561–100570, 2021.
- [47] O. L  zoray, "Mathematical morphology based on stochastic permutation orderings," *Mathematical Morphology - Theory and Applications*, vol. 5, no. 1, pp. 43–69, 2021.
- [48] H. Kadi, M. Rebbah, B. Meftah, and O. L  zoray, "A data representation model for personalized medicine," *International Journal of Healthcare Information Systems and Informatics*, vol. 16, no. 4, 2021.
- [49] S. Benyahia, B. Meftah, and O. L  zoray, "Multi-features extraction based on deep learning for skin lesion," *Tissue and Cell*, vol. 74, pp. 101701, 2022.

- [1] O. Lezoray, A. Elmoataz, H. Cardot, G. Gougeon, M. Lecluse, H. Elie, and M. Revenu, "Segmentation of cytological images using color and mathematical morphology," in *Abstract Book of the 7th European Congress of Stereology*, 1998, p. 52.
- [2] O. Lezoray, A. Elmoataz, H. Cardot, and M. Revenu, "A.R.C.T.I.C : Un système de tri cellulaire par analyse d'images," in *Vision Interface*, 1999, pp. 312–319.
- [3] O. Lezoray, H. Cardot, D. Fournier, and M. Revenu, "MONNA : a Multiple Ordinate Neural Network Architecture," in *Engineering of Intelligent Systems (EIS)*, 2000, pp. 47–53.
- [4] O. Lezoray, A. Elmoataz, H. Cardot, and M. Revenu, "A color morphological segmentation," in *Color in Graphics and Image Processing (CGIP)*, 2000, pp. 170–175.
- [5] O. Lezoray, M. Lecluse, and H. Elie, "Study of the texture of cells in serous cytology by image analysis," in *Abstract Book of the 7th ESACP, Analytical and Cellular Pathology*, 2001, vol. 22, p. 74.
- [6] O. Lezoray, A. Elmoataz, and H. Cardot, "Automatic cellular recognition in serous cytology," in *Abstract Book of the 7th ESACP, Analytical and Cellular Pathology*, 2001, vol. 22, p. 70.
- [7] J. Thuillier, B. Plancoulaine, O. Lezoray, P. Herlin, and D. Bloyet, "Building of a microscopical acquisition device dedicated to clinical oncology," in *Abstract Book of the 7th ESACP, Analytical and Cellular Pathology*, 2001, vol. 22, p. 77.
- [8] H. Cardot and O. Lezoray, "Graph of neural networks for pattern recognition," in *International Conference on Pattern Recognition (ICPR)*, Août 2002, vol. 2, pp. 873–876.
- [9] O. Lezoray and H. Cardot, "Histogram and watershed based segmentation of color images," in *Color in Graphics, Imaging and Vision (CGIV)*, Avril 2002, pp. 358–362.
- [10] O. Lezoray and H. Cardot, "Bayesian marker extraction for color watershed in segmenting microscopic images," in *International Conference on Pattern Recognition (ICPR)*, Août 2002, vol. 1, pp. 739–742.
- [11] O. Lezoray, "Unsupervised 2d multiband histogram clustering and region merging for color image segmentation," in *International Symposium on Signal Processing and Information Technology (ISSPIT - IEEE)*, 2003, pp. 267–270.
- [12] O. Lezoray and A. Elmoataz, "Graph based smoothing and segmentation of color images," in *International Symposium on Signal Processing and its Applications (ISSPA - IEEE)*, 2003, vol. 1, pp. 22–29.
- [13] C. Meurie, G. Lebrun, O. Lezoray, and A. Elmoataz, "A supervised segmentation scheme for cancerology color images," in *International Symposium on Signal Processing and Information Technology (ISSPIT - IEEE)*, 2003, pp. 664–667.
- [14] C. Meurie, G. Lebrun, O. Lezoray, and A. Elmoataz, "A comparison of supervised pixels-based color image segmentation methods. application in cancerology," in *WSEAS International Conference On Signal, Speech and Image Processing (SSIP)*, 2003, pp. 463–468.
- [15] C. Charrier and O. Lezoray, "Influence of JPEG2000 standard compression on color image segmentation quality," in *International Conference on Image and Signal Processing (ICISP - IAPR)*, juin 2003, vol. 2, pp. 389–396.
- [16] O. Lezoray and H. Cardot, "Hybrid color image segmentation using 2D histogram clustering and region merging," in *International Conference on Image and Signal Processing (ICISP - IAPR)*, juin 2003, vol. 1, pp. 22–29.
- [17] C. Meurie, O. Lezoray, H. Cardot, and A. Elmoataz, "Comparaison de classifieurs non-supervisés pour la segmentation d'images couleur : Application en imagerie biomédicale," in *International Conference on Image and Signal Processing (ICISP - IAPR)*, juin 2003, vol. 1, pp. 30–37.
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