

# On-going Curriculum Vitæ

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## Career

- Since 2011, Full Professor at University Nice Sophia Antipolis (UNS), teaching at the Engineering School Polytech'Nice, research group MinD (Mining Data) in the Scalable and Pervasive softwARE and Knowledge Systems Team (SPARKS Team) of the I3S Laboratory. Head of the MinD group: 5 Assistant professors (Maîtres de conférences), 1 CNRS researcher, 7 PhD students and myself.  
I work on machine learning for computer vision problems and hybrid data mining techniques for large-scale contexts.  
I teach data mining, machine learning and computer vision at Master 1 and 2 levels.
- Quadrennial scientific excellence award since 2012
- In 2010, CNRS Grant for 1 year sabbatical leave at Laboratory of Informatics of Paris 6 (LIP6), UPMC-Sorbonne Universités.  
I joined the research group MALIRE (now MLIA, leaded by Prof. P. Gallinari) to work with Prof. M. Cord (*IUF Junior*) and Ass. Prof. N. Thome on structured output learning and boosting methods applied to text recognition in urban scenes.
- December 3<sup>rd</sup>, 2010: *Habilitation à Diriger des Recherches (HDR)*, defended at University of Cergy-Pontoise.  
Title: Learning for classification and content-based retrieval in multimedia databases.  
Jury: Prof. Isabelle Bloch, Telecom-ParisTech, CNRS UMR 5141 LTCI, *President*; Prof. Jenny Benois-Pineau, Université de Bordeaux 1, *Reviewer*; Prof. Stéphane Canu, INSA de Rouen, *Reviewer*; Prof. Cédric Richard, Université de Nice-Sophia Antipolis, *Reviewer (IUF Junior)*; CNRS Senior Researcher Laure Blanc-Féraud, I3S Laboratory UMR 7271 UNS-CNRS, *Examiner*; Prof. Matthieu Cord, LIP6 UMR 7606 CNRS-UPMC-Sorbonne Universities, *Examiner (IUF Junior)*; Prof. Sylvie Philipp-Foliguet, ETIS Laboratory/UMR 8051 CNRS-ENSEA-UCP, *Examiner*.
- September 2005-September 2011, Assistant Professor (Maître de conférences) at *l'École Nationale Supérieure de l'Électronique et de ses Applications*, Cergy-Pontoise (ENSEA, i.e. National Engineering School in Electronics and its Applications) and member of the MIDI research group (Multimedia Indexing and Data Integration) of ETIS Laboratory, UMR 8051 CNRS/ENSEA/UCP.  
I had been working on: classification, content-based retrieval, supervised/semi-supervised/unsupervised (interactive) learning; on Boosting, Support Vector Machines, Kernel function design, k-Nearest Neighbors, indexing structures (LSH, VA-Files...); on distribution estimation and prediction, Kalman filtering, particle filtering, divergences.  
I had been teaching at ENSEA, about 1145 hours (expressed in TD hours) between September 2005 and September 2010, C/C++/Java programming, algorithmic and data structures, Web and

mobile programming, signal and image processing, indexing structures, classification and machine learning.

- 2004-2005: Post-doctorate Marie-Curie Fellow, at Informatics & Telematics Institute of CERTH (CentRE for Research and Technology – Hellas), Thessaloniki, Greece.

I worked with Prof. M. G. Strintzis & Senior Researcher Y. Kompatsiaris on designing a multimedia content analysis system based on a priori knowledge of the domain.

- 2000-2004: PhD thesis with Highest Honors in Sciences and Technologies of Information and Communication at I3S Laboratory of University Nice Sophia Antipolis, under the supervision of Prof. Michel Barlaud (*IUF senior*).

Title: Parametric active contours image and video segmentation.

Jury: Dr Josep R. Casas, Universitat Politècnica de Catalunya, *Reviewer*; Pr Janusz Konrad, Boston University, *Reviewer*; Pr Philippe Réfrégier, University Aix-Marseille, *President and Reviewer*; Dr Thierry Blu, EPFL; Pr Michael G. Strintzis, University of Thessaloniki, *Examiner*; Dr Luc Robert, Autodesk (ex-RealViz), *Examiner*; Dr Henri Sanson, France Telecom R&D, *Examiner*.

I worked on image and video segmentation by region-based active contours, parametric contour models, partial differential equations, function analysis, B-spline interpolation, smoothing spline approximation.

## Publications

- 15 articles in international journal: Elsevier Pattern Recognition (2), Springer Multimedia Tools and Applications (2), IEEE IP, EURASIP Journal on Advances in Signal Processing, Applied Optics, Elsevier Medical Image Analysis, Springer Journal of Mathematical Imaging and Vision, Annals of British Machine Vision Association, IEEE Pattern Analysis and Machine Intelligence, International Journal of Biomedical Imaging, Machine Graphics and Vision, Medical Image Analysis.
- 45 articles in international conferences and workshops among which IEEE ICIP '01, '02, '03, '05, '09, '10, '11, '12, '14, '15; IAPR ICPR '08, '10, '12; MICCAI '10, '12; ICASSP '12; ICCV workshop '11; ACM Workshop MAED '14; DaWak '14; ICME Workshop '15.
- 5 articles in national conferences: GRETSI 2009, 2011; RFIA 2010, 2012.

## Scientific administration activities

- Elected at IEEE Bio-Imaging and Signal Processing Technical Committee:
  - as associate member, 2011-2013
  - as regular member, since 2013
- Reviewer for 10 PhD theses (University of Lyon, University of Montpellier, University of Grenoble, Telecom-ParisTech, UPMC-Sorbonne Universités, University of Bordeaux / University of Budapest, University Nice Sophia Antipolis, University of Cergy-Pontoise), examiner/president of 8 more.  
Reviewer for “Doctor Europaeus” title, University of Cagliari.
- Reviewer for international journals among which IEEE trans. on Image Processing, IEEE trans. on Signal Processing & IEEE trans. on Circuits and Systems for Video Technology; Elsevier Pattern Recognition, Pattern Recognition Letters, Elsevier Signal Processing: Image Communication, IEEE trans. on Fuzzy Systems, IEEE trans. on Neural Networks and Learning Systems.
- Reviewer for international conferences among which IEEE ICIP, IAPR ICPR, IEEE ICASSP, IEEE WIAMIS, IEEE ISBI, ACIVS, and national conference as GRETSI, RFIA.
- Member of international conferences and workshop program committees for IEEE WIAMIS 2007, KAMC 2007, IARIA HPC-Bio 2008, ACIVS 2011.
- Member of Scientific Evaluation Council for ANR since 2015.
- Reviewer for research programs:
  - ANR program CONTINT since 2008
  - ANR program GSOSG since 2011
  - ANRT PhD Grant program (CIFRE) since 2008

- Co-organizer of national workshops on “Data mining and Scalability” for GDR-ISIS (national consortium of research groups in Image Signal and Information Systems), 2008-2012.
- Co-organizer of national workshops on “Linkage large volume of heterogeneous multimedia data” for GDR-ISIS (national consortium of research groups in Image Signal and Information Systems), 2012-2016.
- Member of the IRIM consortium (*Indexation et Recherche d’Information Multimédia*) of GDR-ISIS, since 2008, for joint participation of French research teams to TRECVID video classification and retrieval challenges.

## Projects/Collaborations

- Project coordinator:
  - CAPES-COFECUB (Brazil-France), *Video indexing*, 2007-2011, involving 3 brazilian universities and 3 french universities
  - Digeo Lab (Paris region funding), *K-videoscan*, 2007-2010
  - GDR-ISIS *Young researchers*, 2007-2009, between ETIS Laboratory and LIP6 Laboratory
- Partner leader:
  - European H2020, *DigiArt*, 2015-2018
  - ANR project, *VISIIR*, 2013-2017
  - THALES project, *VividIA*, 2009-2012
  - Industrial contract between ETIS-CNRS and CELIMAGE (2006-2008)
  - THALES project, *Virtu4D*, 2005-2009
  - European Network of Excellence, *MUSCLE*, 2005-2008
  - ANR project, *EROS3D*, 2006-2009
- Project member:
  - ANR project, *iTOWNS*, 2008-2011
  - EPSRC ECSON, Collaboration ETIS-UCLan (UK), 2007-2009
  - EPSRC TeRaFS, Collaboration ETIS-UCLan (UK), 2009-2011
  - CAPES-COFECUB (Brazil-France), *Image indexation*, 2002-2006
  - European project FP6-IP aceMEDIA (FP6-001765), *Integrated knowledge, semantics and content for user-centered intelligent media services*, 2004-2005
  - Collaboration CNRS-NSF, *Joint Space-Time Video Segmentation and Analysis*, with Boston University, 2004-2005
- Industrial Collaborations: Galderma (Sophia Antipolis, 2011-2013), Autodesk (Sophia Antipolis, since 2011), SAP (Sophia Antipolis, 2012-2014), Amadeus (Sophia Antipolis, 2013), WildMoka (since 2014), Full Performance (since 2013), Izicap (since 2014), Semantic Grouping Company (since 2012), Alcmeon (since 2012)s

*Note: EPSRC = Engineering and Physical Sciences Research Council (UK), CAPES = Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (Brésil), COFECUB = COMité Français d’Évaluation de la Coopération Universitaire et scientifique avec le Brésil, NSF= National Science Foundation (USA)*

## PhD Supervision

I have co-supervised 6 completed PhD theses:

- Leila Meziou, 2010-2013, on Alpha-divergence active contour Segmentation applied to medical and biomedical images. This thesis was funded by the French Ministry of Research (MESR Grant).
- Alexis Lechervy, 2008-2011, on Interactive and multi-class learning for semantic concept detection in multimedia data. This thesis was funded by the French Ministry of Defense (DGA Grant). Alexis Lechervy is an assistant professor at University of Caen, France.
- Shuji Zhao, 2007-2010, on Learning and content-based retrieval for semantic categorization of video objects. This thesis was funded by the Project K-Videoscan (Paris Region Grant). Shuji Zhao is a research engineer in automatic vision, at Tecoptique, France.

- David Gorisse, 2007-2010, on Scalable semantic retrieval in large-scale image databases. This thesis was funded by the French Ministry of Research (MESR Grant). David Gorisse is a research engineer at Criteo Labs, France.
- Jean-Emmanuel Haugeard, 2007-2010, on Extraction and recognition of visual primitives in building façades using graph similarities. This thesis was funded by the Project iTOWNS (ANR Grant). Jean-Emmanuel Haugeard is a research engineer at VisionLab CEA-Thales, France.
- Guillermo Camarà-Chàvez, 2005-2007, on Video content analysis by active learning. This thesis was shared PhD with University of Belo-Horizonte, Minas Geiras, Brasil and co-funded by Brazilian and French Ministries of Research. Guillermo Camarà-Chàvez is an assistant professor at University of Ouro Preto, Brasil.

I am currently co-supervisor of 7 PhD students:

- Romaric Pighetti, 2012-2015, on Content-Based Image Retrieval combining evolutionary algorithms and SVM. This thesis is funded by the French Ministry of Research (MESR Grant).
- Stéphanie Lopez, 2013-2016, on Interactive Content-based Image Retrieval from Eye-tracking feedback. This thesis is funded by the Project VISIIR (ANR Grant).
- Atheer Al-Nadji, 2013-2016, on Data mining recommender system. This thesis is funded by the Irakian Ministry of Research.
- Lucas Malléus, 2014-2017, on 3D object mining and recognition. This thesis is fully funded by Autodesk Company.
- Katy Blanc, 2014-2017, on Analysis, Description and Recognition of Video content. This thesis is funded by the French Ministry of Research (MESR Grant).
- Ayattalah Aly Halim, 2014-2017, on Human Action Recognition from 3D Kinect data. This thesis is a shared PhD between University Nice Sophia Antipolis and French University of Egypt (Cairo), co-funded by Egyptian and French Ministries of Research.
- Ameni Bouaziz, 2013-2016, on Short text message mining. This thesis is co-funded by PACA south-east region grant and Semantic Grouping Company support.

### Invited Talks

- Invited lectures: Plenary session on *Video Indexing, Classification and Retrieval* at IEEE SIBGRAPPI 2009, Rio, Brazil; Conference on *Machine Learning in Imaging* at MedViz Conference (Bergen, Norway), January 2012; LIMA workshop, *Content-based Video Object Semantic Categorization* (Lyon, France), July 2011; French University of Egypt Workshop, Last decade success stories of Machine Learning (Cairo, Egypt).
- Invited seminars: University of Central Lancashire (Preston, UK); University Federal of Minas Geiras (Belo Horizonte, Brazil); Université de La Rochelle; Xerox Research Center for Europe (Grenoble); Galderma (Sophia Antipolis); Medisys Philips Research Lab (Paris);

### Collective activities

- Co-responsible of the Scalable and Pervasive softwARE and Knowledge Systems Team (SPARKS Team) of I3S Laboratory (about 85 permanent and non-permanent staff members in 4 research groups)
- Elected member of EDSTIC Doctoral School board
- Nominated member at I3S Laboratory Council
- Since 2011, in charge of 3-month summer internships of Master 1 and Engineering students in computer science (about 80 students)
- Since 2011, president and member of several recruitment committees (*Comité de Sélection*) at University Nice Sophia Antipolis,
- Between 2008 and 2010, in charge of deploying, administering of and training on the Moodle e-learning platform for ENSEA (about 800 students and 90 colleagues).
- Member of recruitment committees (*Comité de Sélection*):
  - As an external member since 2009 at University Paris XIII
  - As an external member since 2005 at University of Cergy-Pontoise
  - As an internal member first (2006-2010) then external since 2010 at ENSEA
  - As an external member since 2015 at University of Université de Toulon