

Cécile CAPPONI

Aix-Marseille University (AMU) – Lab. of Computer Science and Systems (LIS)

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Born at Grenoble in 1970, married, two kids

Current position : Full Professor in Computer Science, Aix-Marseille University

Full Prof. AMU – Dpt of Computer Science and Interactions, (since 09/01/2020)
Research Lab. LIS – Data Science Pole, (Machine Learning team QARMA) – qarma.lis-lab.fr
Research topics Machine learning, Ensemble methods, Multimodal machine learning, kernel-based methods, bioinformatics.

Current and recent responsibilities

Directions Deputy Director of Archimède Institute (since 2018)
Co-head, with Pr. Artières, of the research team QARMA of LIS (20 to 25 people) (since 2017)

Missions Head of Intellectual Property and Transfer Mission of LIS (2010–2019).
Member of the AMU Doctoral School Council in Math and Computer Science (since July 2018)
Member of the AMU Computer Science Department, (since sept. 2021)

Scientific Organisations Co-chair of a Summer School INSERM *Machine Learning from Biology to Health* (Bordeaux, oct. 2021)
Chair and organisation of a full week working session of *Math and Computer Science with young researchers and companies problematics (SEME)* (dec. 2019, Marseille)
Co-Chair and organisation of DAMVL Workshop at European Conference on Machine Learning (sep. 2019, Wurzburg)

Teaching Head of the Computer Science Master of Aix-Marseille University (260 students) since sept. 2020

Expertise Member (and/or reviewer) of scientific PC of several international conferences in Machine Learning (ECML, UAI, AISTATS, NIPS, JOBIM, etc.), Research project expert reports (French Research Agency, etc.), expert report of research and development companies projects, etc.

Popularisation Co-head of the event *Treize Minutes Marseille* since 2018 (organisation since 2013)
Scientific ambassador of the PACA science festival, 2019
Interventions in secondary schools since 2017 (Declics, festival of sciences, etc.)
Member of the scientific council of *Petits déboruillards* (Marseille)

Professional experience

since sept. 2020 Full Prof. AMU, Computer Science.
summer 2018 Invited at Laval University at Québec, Canada, Lab. Graal.
2013-2020 Associate Prof. AMU, Computer Science.
2003-2005 Member of Biological Labs.: Marseille (LCB), then Toulouse (LMGM), France
1998-2013 Assistant Prof. AMU, Computer Science.
1997-1998 Deputy Director of the Computer Science dpt., University Hospital (Grenoble)
1996-1997 Lecturer at ENSIMAG, Computer Science, Grenoble (France)
1995-1996 Post-Doct research at SFU, Intelligent Software Group (Vancouver B.C., Canada)
1992-1995 PhD at Joseph Fourier University (UGA), INRIA Rhône-Alpes, Sherpa project.

Post-graduate Education

Hability for Research Directions (French HDR) in Computer Science, Aix-Marseille University, 2018

Contributions on Cooperative Classifications

Examining committee= C. Brun, A. Cornuéjols, O. Zaïane (Reviewers), F. Denis, J. Gensel, I. Guyon et F. Laviolette (Examinators)

PhD in Computer Science, 1995, cum laude. Joseph-Fourier University (UGA), Grenoble (France)

Magisterium in Computer Science and Modelisation, 1993, cum laude. Joseph-Fourier University (UGA), Grenoble (France)

Master in Computer Science, 1992, cum laude. National Polytechnic Institute of Grenoble, France.

Recent talks

- Research seminars*
- 2022 (fev)**, GrAAL-santé Lab., Québec (PQ, Canada), *Cross-View Kernel Transfer*
 - 2021 (jul. and sep.)**, MaBios, Marseille, *From boosting blast to kernel completion of embryogenesis missing images*
 - 2019**, Centuri Institute, Turing Center Seminars, Marseille), *An humble testimony of the couple Biology / Machine Learning research*
 - 2019**, Carnot Star Institut (Marseille), *Scientific presentation of the machine learning team of Marseille (Qarma LIS)*.
 - 2018**, Centuri Institute, Scientific days, CIML, Marseille. Short talk, *Beyond Boosting Blast*
- Misc.*
- 2019**, Festival of Sciences, Opening Conference, Préfecture des Bouches du Rhône : *A journey to the heart of artificial intelligence*.
 - 2019**, CIRM (Marseille), Week Les Cigales : *Mathematical models and AI*.
 - 2017**, Summer School on Information Systems and Health, Corte University (Corse) *Deep Learning and health*

Recent research projects

- 2020–2021** Artificial Intelligence to predict the developmental capacity of fertilized oocytes (Collaborator, P.I.= Paul Villoutreix, CENTURI). *Topics* : deep multimodal learning applied to embryogenesis
- 2015 - 2020** NRA “LIVES” (P.I., 5 partners, 800K€). *Topics*: Mumitmodal machine learning, from theory to practice
- 2016 - 2018** European projects “SpatiotEmporal ForEcasting: Coopetition to meet Current Cross-modal Challenges” (Collaborator, P.I.= F. Popescu). *Topics*: Forecasting on spatio-temporal data (electricity flows), international challenge organisation

Doctoral and peri-doctoral responsibilities

- Directions* (co-)supervision of 8 PhD students in Computer-Science (5 defended, 3 on-going); dozens of master research works; a post-doctoral researcher; and 3 research engineers.
- Members of committees* (since 2018): 10 PhD committees (4 as a reviewer, 3 as a president); 3 HDR committees (1 as a president); *Opponent* of a PhD thesis at Aalto University (2020, Finland)

Scientific productions : thematic excerpt 2018–2022

R. Huusari, C. Capponi, P. Villoutreix and H. Kadri. “Cross-View Kernel Transfer”. *Pattern Recognition* (129), 2022. A★.

D. Benielli, C. Capponi, B. Bauvin, S. Koço, R. Huusari, H. Kadri and F. Laviolette. “Toolbox for Multimodal Learn”. *Journal of Machine Learning Research*, 23(51), déc 2021. A★.

Q. Ferré, C. Capponi, D. Puthier. “OLOGRAM-MODL: mining enriched n-wise combinations of genomic features with Monte Carlo and dictionary learning”. *NAR Gen. and Bioinfo.*, 3(4), dec. 2021. Q1.

Q. Ferré, J. Chèneby, D. Puthier, C. Capponi and B. Ballester. “Anomaly detection in genomic catalogues using unsupervised multi-view autoencoders”. *BMC Bioinformatics*, vol 22(1), 2021. A★.

B. Bauvin, C. Capponi, J.-F. Roy, and F. Laviolette. “Fast C-Bound minimization with guarantees”. *Machine Learning*, 109(1945–1986), sep. 2020. A★.

C. Capponi and S. Koço. “Learning from Imbalanced Datasets with Cross-View Cooperation-Based Ensemble Methods”. Chapter 7 of *Linking and Mining Heterogeneous and Multi-view Data*, Springer, 2019.

R. Huusari, H. Kadri, C. Capponi. “Multi-view metric learning in vector-valued kernel spaces”. *Artificial Intelligence and Statistics (AISTATS)*, *JMLR* 84:415–424, 2018. A★.