Nicolas VAYATIS,
Full Professor (« classe exceptionnelle » - PUCE2) / Chevalier des Palmes Académiques / ELLIS Fellow
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Links:
> **Google scholar** <Google scholar citations>
> **Semantic scholar** <Semantic scholar citations>
> **Homepage** <http://nvayatis.perso.math.cnrs.fr/>
> **Research** <http://www.centreborelli.fr/>
> **Master MVA** <http://www.master-mva.com/>
> **Media** <https://dataanalyticspost.com/>

Present duties :
Machine Learning and Massive Data Analysis group leader (30 people)
Founder and Director of the research unit Centre Borelli (UMR 9010 - Ecole normale supérieure Paris-Saclay, Université de Paris, CNRS, Service de Santé des Armées, INSERM)
Dean of the Department of Mathematics at Ecole normale supérieure Paris-Saclay
Director of the master program in AI called Mathematics-Learning-Vision (MVA) at ENS Paris-Saclay (200 students/year)

Fields of expertise
Data science, Machine learning, High dimensional statistics, Predictive modeling, Monitoring systems, Recommender systems, Sequential Optimization, Uncertainty quantification, Network science, Operations Research, Criticism of Artificial Intelligence, Applications to industry and healthcare (more than one hundred projects or contracts in biomedical and healthcare research, energy, transportation, etc.).

Career :
Full Professor ENS Paris-Saclay (since 2007, formerly ENS Cachan), Invited Professor Georgia Institute of Technology (2007), Associate Professor Université Paris 6 (2002-2006), EU-Marie Curie post-doctoral fellow Universitat Pompeu Fabra – Barcelona (2000-2002), Assistant Professor Université Paris 10 – Nanterre (1999-2000).

Education :
B.E. Ecole Centrale Paris (1995), M.S. Cognitive Sciences at Ecole Polytechnique (1995), PhD in Applied Mathematics at Ecole Polytechnique (2000), Habilitation thesis in Mathematics (HDR) at Université Pierre-et-Marie-Curie (2006)

PhD thesis supervision :
23 defended between 2007 and 2021, 6 ongoing

Publications :
About 150 publications in international peer-reviewed journals or conferences mostly in machine learning, mathematics, signal processing, biomedical research
3 book chapters, 2 volumes edition, 7 patents (3 licensed)

Some representative recent publications

C. Truong, L. Oudre, N. Vayatis (2020). Selective review of offline change point detection methods. Signal Processing, 107299.

B. Le Bars, P. Humbert, A. Kalogeratos, N. Vayatis (2020). Learning the piece-wise constant graph structure of a varying Ising model. Proceedings of ICML 2020: 675-684.

C. Dubost, P. Humbert, A. Benizri, J.P. Tourtier, N. Vayatis, P.P. Vidal (2019). Selection of the Best Electroencephalogram Channel to Predict the Depth of Anesthesia. Frontiers in Computational Neuroscience, 13.

I. Bargiotas, J. Audiffren, N. Vayatis, P.P. Vidal, A.P. Yelnik, D. Ricard (2019). Local Assessment of Statokinesigram Dynamics in Time: An in-Depth Look at the Scoring Algorithm. Image Processing On Line, 9:143-157.

T. Moreau, L. Oudre, N. Vayatis (2018). DICOD: Distributed Convolutional Coordinate Descent for Convolutional Sparse Coding. Proceedings of ICML'18.

Scientific Committees

Executive Board of DataIA institute at Paris-Saclay (2020-)

Action Editor of Journal of Machine Learning Research (2007-)

Steering Committee of the industrial chair "AI for industry" with ATOS-CEA-Banque de France-Bertin IT-Michelin-SNCF (2017-)

Scientific Board member Fondation MAIF

Scientific Board member Groupe Avril

Director of publication of online media "Data Analytics Post"

Member of Board for FranceISAI

Conseil Scientifique SFDS (2010-2012)

Editorial Board du Journal of Nonparametric Statistics (2008-2011)

Senior PC member IJCAI 2019

Member of Program Committee COLT'04, COLT'08, ALT'08

Area Chair NIPS'11, ICML'2015, NeurIPS'19

Member of Steering Committee DataLead'14

Conference Chair ALT'12

Governmental missions on AI

FranceIA (SENUM) – Chair of the working group on AI and education (2017)

G7 conference on AI (MinFin/DGE) – Workshop Chair on AI and work (2018)

Covid-19 interministerial crisis unit (Ministère de l'Intérieur) – Task force on "modeling and simulation of the deconfinement phase" (2020)

Data vs. Covid-19 (Health Data Hub) – Member of the working group on "mathematical models" (2020)

Launching and management of research initiatives

Research group of 30 researchers in Machine Learning and Data Science (2011-).

Industrial chair "AI for industry" of 10 researchers, 2 higher education institutions, 2 research organizations (CEA and CNRS) and 4 companies (Atos, Bertin IT, Michelin, SNCF) and the central bank (Banque de France) (2017-).

Joint lab CMLA-COGNAC G between mathematicians, neuroscientists, computer scientists, and clinicians, prefigurating the Centre Borelli (created in 2020) focused on precision medicine in neurology-ENT-rehabilitation-anesthesia-pediatric ophtamology-geriatry (2014-).