



Nicolas COURTY

Full Professor
Computer Science

“

*You can fool once a thousand AI
algorithms, but not a thousand
times an AI algorithm*

”

BIO

After a PhD on active vision (INSA Rennes, 2002), Nicolas Courty specialized in crowd simulation during his post-doctorate in Brazil. He joined University Bretagne Sud in 2004 where he continued with the analysis of crowd simulation models and sign language. He was invited to Beijing for eight months in 2012, then two months at EPFL Lausanne in 2014. Since 2012 he's been developing methodologies for machine learning and remote sensing. His research activities within the Obelix team (IRISA) that he leads since 2020, focus on statistical learning, optimal transportation, and deep learning. In cybersecurity issues, he mainly focuses on the security and vulnerabilities of AI algorithms. An article reviewer for several AI journals and conferences, he also holds a chair in Artificial Intelligence at the National Research Agency, with a project on optimal transport and remote sensing.



25% of the researcher's activity devoted to cybersecurity

Focus :

Research

Application field

Core data

PhD students: 10

Post-doctoral fellows: 3

Publications: 25 - IEEE PAMI, IEEE TGRS, Machine Learning, etc.

Conferences: 53 - NeurIPS, ICML, ICLR, AISTATS, etc.

Book(s): 4 chapters – Deep learning for earth science, Wiley 2020.

Award(s): U.V. Helava Award 2015 ; 4 Best Paper Awards (international conferences).

Patent(s): 1 - Method for counting individuals in a crowd, 2014 (Thales / CNRS)

International collaborations: Kyoto University (Japan), Wageningen University (NL), University of the Balearic Islands (ES). Invited to Beijing (2012 - funded by the Chinese Academy of Sciences) then to EPFL Lausanne (Switzerland - 2014).

Area(s) of research

AI Theory
Remote Sensing
Computer vision

Fields of expertise

Statistical learning
Deep learning

Applicative examples

Satellite images semantic segmentation in a context of jammed labels
Security of AI Algorithms in Remote Sensing
Graphs structured data learning

Responsibilities

- Head of the Obelix team (since 2020)
- Member of ELLIS, European laboratory for the promotion of Artificial Intelligence (since 2020)
- Head of the ANR OATMIL project - links between optimal transport theory and machine learning
- Head of the Labex COMINLABS Dynalearn project - links between deep learning and physical models
- Leader of the UBS Data Sciences Division
- UBS Data Sciences Engineering Masters' Director of Studies
- IA international expertise for ANR (National Research Agency)

Domain

Artificial intelligence

Keywords

Optimal transport
Neural networks
Core machines

Contact

nicolas.courty@univ-ubs.fr
+33 (0) 2 97 01 72 13