

Professional goal
*join an industrial team which is developing projects in
artificial intelligence or has identified such a need*

Education

- 2002–2006 **Ph.D. in Artificial intelligence, Highest Grade**, Ecole Nationale Supérieure des Mines de Saint-Etienne (ENSM.SE), G2I/SMA, Saint-Etienne, France.
Title: Using norms and reputations to detect and sanction contradictions – Contribution to the Social Control of interactions in Open and Decentralised Multi-Agent Systems.
Supervisors: O. BOISSIER (boissier@emse.fr), L. VERCOUTER (vercouter@insa-rouen.fr).
Specializations: Multi-agent system, Reputation, Social norm, Social commitment, P2P networks.
- 1999–2001 **Master in Artificial intelligence and Pattern recognition, with Honors**, University Paris XI, Orsay, France (1st year), University Paris VI and IRD, Paris and Bondy, France (2nd year).
Specializations: Multi-agent system, Machine learning, Artificial life, Pattern recognition, Simulation, Epidemiology, Java, C/C++, MadKit platform.
- 1996–1999 **Associate’s Degree (DEUG) and Bachelor (Licence) in Computer science**, University Paris XI, Orsay, France.
Specializations: Artificial intelligence, Distributed system, C/C++, Java, OCaml.

Scientific & Technical Expertise

- Artificial intelligence** Multi-agent system, Clustering (KMeans, XMeans, EM, SOM, DBScan, LVQ, Mahalanobis), Classification (SMO, MLP, J48, RandomForest, HMM), Regression (linear regression, SMO, MLP, REPTree, ZeroR), Decision making (Fuzzy logic, Genetic algorithm, Genetic programming).
- Computer science** Simulation, Distributed system, Network security, Big data, Statistical hypothesis test, Programming.
- Application domains** Epidemiology, P2P networks, Web 2.0, Air traffic management, Human-machine interaction, House automation, Serious game, Natural resources management, Solar heated house, Aircraft fleet management, Open Innovation.

Computer Skills

Multi-agent platforms	MadKit, Jade, Jason, MAST.	Web	HTML, CSS, XML, PHP.
Programming	Grails, Java, R, Bash, C, C++, C#, Prolog, Caml, Pascal, ASM.	Design	SCRUM, UML, Fusion.
Editors	Emacs, Eclipse, MonoDevelop, Visual C# & C++, vi.	Office Documents	L ^A T _E X, Libre Office, Microsoft Office.
OSes	Linux (Slack...Ubuntu), OpenBSD, Windows (95...10).	Software & libraries	Git/SVN/CVS, Weka, Grobid, SVM-light, Gnuplot, GNU make, OpenGL, MPI/PVM.
Administration	OpenSSH, Hadoop, IPCop, OpenVPN.	DataBase	MySQL, PostGreSQL, MongoDB.

Work Experience

WORK EXPERIENCE SUMMARY		
Since 01/2013	Presans, Palaiseau & Paris	Researcher-Engineer
2011–2012	AIRPX, Orsay & Paris	Researcher
2009–2011	CEA, Saclay	Engineer-Researcher
2008–2009	USP, Brazil	Researcher
2008–2008 (5 months)	LORIA, Nancy	Expert-Engineer
2007–2008 (7 months)	LORIA, Nancy	Expert-Engineer
2006–2007	ÉSIL, Marseilles	Teacher-Researcher
2002–2006	ÉNSM.SÉ & UJM, Saint-Étienne	Teacher-Researcher

- Since 01/2013
Researcher-Engineer
- Search engine of experts**, « Presans » start-up, Palaiseau & Paris, France.
- Collection and cleaning of data about experts (Heritrix/Norconex, Grobid, Java),
 - Automatic feature selection (PCA, ICA, SVD),
 - Detection of document types, information extraction & categorization (Weka, CRF, LDA, Java),
 - Optimization of a search engine's results (SVM-light, Groovy),
 - Development of graphical user interfaces (Grails, JavaFX),
 - System administration (Debian, SVN, Trac, SSH, PostgreSQL, MongoDB).
- Keywords: Artificial intelligence, Machine learning, Grobid, Weka, Groovy/Grails, Trac, OpenSSH, Heritrix/Norconex, PostgreSQL, MongoDB.
- 05/2011–11/2012
Researcher
- Optimization of aircraft fleet management through predictive maintenance**, « AIRPX » start-up, Orsay & Paris, France.
- Cleaning and preprocessing of big data from actual flights and failures,
 - Expert and automatic feature selection (PCA, ICA),
 - Detection and prediction of failures (clustering, classification, regression, statistical tests)
 - Creation of prototypes: similar situations, outliers,
 - Participation to the ISO-9001 qualification and SCRUM process,
 - Participation to the network administration and the writing of patents.
- Keywords: Artificial intelligence, Machine learning, Signal processing, Hadoop, Weka, R, SCRUM, IPCop, OpenVPN.
- 09/2009–03/2011
Engineer-Researcher
- Decentralization and optimization of the thermal regulation of solar heated houses**, *Project « SolaireDuo » (co-financed by the companies « ClipSol » and « Giordano Industries »)*, Commissariat à l'Énergie Atomique (CEA), LIMA, Saclay, France.
- Assimilation of the functioning of the regulation of solar houses,
 - Modeling of the regulation with a multi-agent system that adapts to any of the companies' installations,
 - Expert knowledge extraction and formalization with fuzzy logic rules,
 - Inclusion of new sources of information (weather models, building models, etc.),
 - Design and implementation of a multi-agent platform in C#,
 - Participation to the organization of the AFIA'11 la platform (particularly the vulgarization part).
- Keywords: Multi-agent system, Solar heated house, C#, MS .Net/Mono.
- 10/2008–08/2009
Researcher
- Generation of virtual players, using machine learning techniques, for an e-learning platform about natural resources conflicts**, *Project « NegoWat »*, Escola Politecnica, Universidade de São Paulo (EP-USP), São Paulo, Brazil.
- Assimilation of the problems related to natural resources management,
 - Selection of a learning algorithm adapted to real game logs,
 - Development of a genetic programming algorithm in Java,
 - Participation to the development of a multi-agent serious games platform,
 - Supervision of Ph.D. candidates in the domain of multi-agent systems.
- Keywords: Multi-agent system, Machine learning, Serious game, Jason, Java, ECJ.
- 04/2008–09/2008
Expert-Engineer
- Design and implementation of an ambient, domestic, intelligent and communicant assistant**, *Oseo Project (co-financed by the company)*, « Intuitive Machine » start-up, LORIA, Nancy, France.
- Design of a natural language processing engine which combines speech recognition and ontologies,
 - Design of a multi-agent architecture for the decentralization of the system,
 - Development of a prototype in Java,
 - Supervision of students in internship, working on the user interface and ontologies.
- Keywords: Multi-agent system, Human-machine interaction, House automation, Ontology, Java, Eclipse, SVN, Protege.

- 09/2007–03/2008
Expert-Engineer
- Modeling of authority sharing between the actors of air traffic management (pilots, controllers and machines)**, *Project « PAuSA » (co-financed by Airbus, Dassault Aviation, Eurisco, DSNA, DGAC...)*, LORIA, Nancy, France.
- Assimilation of the functioning of air traffic management,
 - Expert knowledge extraction,
 - Modeling of authority sharing with a multi-agent system,
 - Participation in the design of the prototype presented to DGAC in Paris.
- Keywords: Multi-agent system, Organizational modeling, Air traffic management.
- 09/2006–08/2007
Teacher-Researcher
- Personalization of the results of a search engine, using trust and reputation levels**, Ecole Supérieure d'Ingenieurs de Luminy (ÉSIL, part-time teacher), Marseilles, France.
- Definition of a trust and reputation model fitted to the Web 2.0,
 - Definition of a realistic application scenario that takes into account the subjectivity of information,
 - Teachings in Networks, JavaME, XML, WebServices, Java.
- Keywords: Multi-agent system, Data mining, Web 2.0, Java, Axis.
- 2002–2006
Teacher-Researcher
- Improving the reliability of decentralized applications, using trust and reputation models**, Ph.D. at Ecole Nationale Supérieure des Mines de Saint-Etienne (ÉNSM.SÉ) and part-time teacher at University Jean Monnet (UJM), Saint-Etienne, France.
- Design of multi-agent models to improve the reliability of open and decentralized systems,
 - Implementation in Java of a simulator inspired by GNUtella-like P2P networks,
 - Participation to the development of the decentralized multi-agent platform MAST,
 - Teachings in Multi-Agent Systems, C, Systems and Networks, Java, Data Structures and Algorithms, UML.
- Keywords: Multi-agent system, P2P networks, Network security, MAST platform, Java.

Languages

Mother tongue	French.	
Fluent	English, Portuguese.	<i>(score TOEIC-2004: 935/990)</i>
Scholar	German, Polish.	

Miscellaneous

Music	Classical (F. Chopin, W.A. Mozart, J.S. Bach...), Jazz (K. Jarrett, D. Gillespie...).
Sports	Running (competition), Roller (Long-Distance: competition, Slalom: jury), Climbing (club).
Associations	CJC (young researchers), Mirabellug (free & open source software).