Philippe MORIGNOT

Expert in Artificial Intelligence

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Research and software engineering
Funding search, bid writing & consortia building
Management of software engineers
Creative, open-minded, rigorous

2022 — **THALES** (78). **Expert A.I. and Algorithms**
Dynamic framing of a reinforcement learning agent, applied to ground exploration with drones. Clustering for city detection. A.I. roadmap of the department SIX PRS.

2021
2017- 2019 — **SAFRAN** (78). Missions via intermediate companies. **R&D consultant in A.I.**
Path-planning and scheduling for multi-agents with coordination using a model in constraint programming - application to off-road autonomous vehicles, VTOL aircraft and drones

2016 - 2017 — **VEDECOM Institute** (78). **Senior researcher in A.I.**
Dynamic reconfiguration of the software architecture of an autonomous vehicle using inference rules. Organization of a workshop « A.I. & Autonomous Vehicle ». Writing of a 160-page deliverable on A.I. for the automotive industry. #FranceIA

2012 - 2015 — **INRIA Rocquencourt** (78). **Contractual researcher**
Team LIFEWARE. Packing using constraint programming.
Team RITS. Ontologies (relaxation of traffic rules in emergency situations, and self-assessment of sensors). Arbitration. Merging of dynamic path-planning and V2V communication for simulated autonomous vehicles

2009 - 2011 — **CEA-LIST, Robotics Lab.** (92). **Researcher-engineer**
Embedded A.I. planning inside a cognitive architecture to control a mobile robot with an arm and a gripper, for assistance of handicapped persons. Participation to the robotic competition CAROTTE

2007 - 2009 — **OPTIMIA** (75). **Project of startup creation**
Proposition of an algorithm for dynamically updating timetables due to an unexpected last-minute event. Prospects search. Writing of a business plan. In incubator of Télécom ParisTech

2003 - 2008 — **AXLOG Ingénierie** (94). **Chief scientific officer**
Simulation of a package of uninhabited combat aerial vehicles having to destroy a target in foe territory. Portage of a knowledge-based system for fixing helicopter blades. A.I. planning & evolutionary algorithms.
Bid writing, before-sales activity, recruitment.

1998 - 2003 — **PACTE NOVATION** (92). **Head of the Combinatorial Optimization Dept.**
Constraint programming (timetabling in airports, assigning flight groups to airport terminals). MMI and database for the renting of frequencies of satellite's transponders. Clustering (medical data vs. background degrees of people)
Consultant for TRAPIL, EUROCONTROL, EDF/GDF, ALCATEL-ALSTOM and the European Commission (reconfiguration of industrial processes)

1997 - 1998	**IBM ex-ILOG** (94). **Consultant in combinatorial optimization** Scheduling, applied to campaigns test of cosmetic products
1994 - 1996	**ROBOTICS RESEARCH HARVESTING**, Redwood city, <u>California</u>. **Programmer** Simulation of a self-propelled robot having to rescue astronauts lost around a space station, using universal plans (for NASA Johnson Space Center)

Teaching

550 hours A.I. planning, constraint programming, knowledge-based systems, linear and mixed integer programming, LINUX, C, C++, JAVA, LISP, PROLOG
   For : Ecole Centrale de Paris, Télécom ParisTech, ENSTA ParisTech, EPITA, ESIGELEC, IFP School, I.A. School, University Paris 9, in industry (Pacte Novation, IBM ex-ILOG, INGENIA, COGNITECH)

Competencies in C.S.

Programming languages   Python, C, C++, Java, Lisp, Prolog, Ada, Pascal, Fortran, Assembly 6502, OWL / SWRL, HTML / CSS / XML, SmallTalk, NetLogo
Solvers   CPLEX CP Optimizer, OPL, GECODE, CHOCO, MiniZinc, RULES, CLIPS, JESS, PROVER iLock, PROTÉGÉ
Graphical environnements OPENCV, ILOG VIEWS, X11 / Motif, GKS
Data flow management   RTMAPS
Operating systems   Windows, Linux (k- / Ubuntu), Unix (Solaris, AIX), VAX VMS

Education

Post-doctoral research (5 years)   Knowledge Systems Lab., Stanford, <u>California</u>
      Embedded A.I. planning & multi-agent systems (blackboards)
      Notion of motivation inside a cognitive architecture
   LORIA, INRIA Grand Est Nancy, France
   Institute for Computer Science – FORTH, Heraklio, <u>Greece</u>
   Fraunhofer Institute – IAIS, near Bonn, <u>Germany</u>
Ph.D.   Télécom ParisTech, Dépt. Computer Science & Networks
      Truth criteria in planning, High honors
M.Sc.   IARFAG, Ponts ParisTech & Paris 6 university
B.S.   Ecole Centrale de Paris

Miscellaneous

Languages   French (native), English (bilingual), German (university level), Greek

Fellowships   CIFRE, Lavoisier, ERCIM

Reviewer Avignon'89, ECP'97, ECAI'04, ANR'11, IJARS'12, ETPS'13, IoT Journal (13, 16), APIA (15-21), IV (16-22), CNIA'16, IV Journal (16, 20, 21)

Publications   H-index = 11. Book chapters (1), international journals (1), inter- / national conferences (14), inter- / national workshops (20)

2003 - 2019	Elected member of the board of directors of the French association for A.I. (AFIA)
2005	Examiner at the PhD defense jury of Elodie Chantery

Hobbies

Photography : streetphotography, portrait, reportage http://philippe-morignot.com
Piano : classical and jazz (ragtime, boogie-woogie, blues)
Boat driver's license, elementary degree of scuba diving, fast walking