

**Didier WILLAME, M.Sc., M.D.**

Email: [didier.willame@argonauts-it.net](mailto:didier.willame@argonauts-it.net)

Web: <http://members.argonauts-it.net/didier.willame>

## Software Engineering

### PROFESSIONAL EXPERIENCE :

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Each record is divided into 4 fields: the employer, the function, the domain and the used tools.

- 12/2005 -
- SMALS-MVM / EGOV, Belgium
  - Test coordinator, consultant, teacher and support engineer (configuration items).
  - Social security and e-government.
  - TMAP, EUP, ITIL, PMBOK, PSNext, BPMN (iGrafx), and CAST (WinRunner, TestDirector, Badboy, Marathon, Jira, Junit and Cobertura).
- 10/2004 -
- ARGONAUTS-IT FOUNDATION
  - Founder, manager and developer.
  - Development of businesses, research laboratories and softwares.
  - Open source technologies (Eclipse, Umbrello, Qt, doxygen, cvs, RPM), intelligent web servers (PHP/Corba), web administration (Plesk), and collaborative environment (WackoWiki).
- 01/2000 - 12/2003
- ERICSSON CANADA - XWAVE, Canada
  - Software designer (development and tests) and tests responsible.
  - Telecommunications, Signaling, Networking, OO-DB and GUI.
  - Gnu C/C++, Java, Python, Tcl/Tk/Expect, Perl, XML, Corba/Corbascript, TelOrb, OSE, protocols (SS7/IS41, SIP, Abis), UML (Rational Rose), ClearCase, Design by Contract, Design Patterns, RUP, and MS Project.
- 07/1999 - 12/1999
- SEDERTA - QUEBECOR, Canada
  - Team leader (tests and production).
  - Networking and Embedded Systems.
  - IEEE 1394/FireWire, VxWorks, Gnu C/C++ and InstallShield.
- 10/1997 - 06/1999
- CIRANO - UNIVERSITE DE MONTREAL, Canada
  - Research professional (development and production).
  - Finance, Neural Networks, HMM, Mixtures and Kalman Filters.
  - Gnu C/C++, S-Plus, gnuplot, troff and latex/bibtex.
- 04/1996 - 05/1997
- EUROCONTROL, The Netherlands - IBM PROFESSIONAL SERVICES - ARIANE II, Belgium
  - Software engineer (development).
  - 'Air Traffic Control' (ATC) and Signaling.
  - Visual C++, Gnu C/C++, embedded SQL/Oracle, Interleaf and IBM RS/6000.

- 10/1995 - 04/1996
  - CEGELEC ACEC - ALCATEL, Belgium
  - Software engineer (development).
  - GUI (measurement curves).
  - Booch methodology and Visual C++.
- 10/1994 - 09/1995
  - ACEC TRANSPORT - GEC ALSTOM, Belgium
  - Software engineer (validation and development) and teacher (real-time aspects of ADA).
  - Quality Assurance, Railroad ('Automatic Transport Protection') and Embedded Systems.
  - Ada, Buhr diagrams, TeamWork Workflow and Logiscope.
- 01/1988 - 06/1990
  - AIM s.p.r.l., Belgium
  - R&D responsible (development and production).
  - Medical Informatics and Accounting.
  - Superbase 4 and PowerBuilder.

## EXPERTISE :

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The numbers in brackets show the duration in year(s).

### Working Environment:

- Windows NT/2000/XP (7) Documentation (MS Office), design (Rational Rose), development (Eclipse, Visual C++, Java, Python, Superbase 4, PowerBuilder, Intel Assembler, Ada, iGrafX, TeamWork Workflow, Logiscope, ClearCase and InstallShield), project management (MS Project and PSNext), CAST (WinRunner, TestDirector, Badboy, Marathon, Jira, Junit and Cobertura), and mathematics (Mathematica and Matlab).
- Cygwin (3) XFree86 server and development (emacs, make, gcc, gdb, doxygen, ctags, rcs, perl, PostgreSQL, latex/bibtex and docbook).
- Linux (SuSE) (10) Documentation (OpenOffice.org), design (Umbrello), development (Eclipse, KDevelop, QtDesigner, Kompare, gcc, DDD, Java, Python, PHP, MySQL, doxygen, ctags, cvs, KRPMBuilder, latex/bibtex, docbook and GIMP), project management (Mr Project/Planner), mathematics (s-plus, blas, ctn, octave, gp/pari, scilab and gnuplot), and video stream processing tools (mencoder and transcode).
- Solaris (6) Documentation, design and development (Eclipse, g++, Java, Perl, Python, Tcl/Tk/Expect, Lisp, Prolog, Fortran, Corba/CorbaScript, embedded SQL/Oracle, troff, ClearCase and OMNI SignalWare).
- IBM RS/6000 (1) Documentation and design (InterLeaf).
- IBM 3270 (1/2) Development (assembler, Fortran and GKS).
- TelOrb (3) Ericsson OS dedicated to application nodes (e.g. HLR and CSCF), running on Jambala platforms.
- OSE (1) Ericsson OS based on the pi-calculus, dedicated to C-RAN nodes (e.g. BSC), running on Cello/CPP platforms.
- VxWork (Tornado) (1/2) Real-time programming (gcc).

## Languages and Libraries:

- BPMN (1) TMAP and enterprise processes.
- UML/XMI (4) Use case, activity, class/object, sequence/collaboration, state and deployment diagrams.
- Gnu C/C++ (g++ and gdb) (5) Analyser, conversion tool and real-time programming.
- Visual C++ (1) GUI and VLSI design.
- Ada (Meridian and gnat) (4) Real-time, embedded and critical systems.
- Intel Assembler (1/2) Communication tool (RS-232 protocol).
- Fortran (2) FFT, simulated annealing and cellular automata.
- Prolog (1) d,k-local automata reduction to their canonical form.
- Lisp (1/2) Symbolic calculus.
- Java (3) GUI, telnet, cryptography and JDBC.
- Python (5) Test automation, remote control, XML/HTML parser (SAX), web libraries (HTTP, POP and SMTP) and backtracking.
- Tcl/Tk/Expect (1) Graph drawing and testing tools.
- Perl (1/4) Jeeves and test automation.
- HTML/XML/XSL (3) Structured data and web servers.
- PHP (1) Intelligent web servers.
- Corba/CorbaScript (2) Cellular telecommunication nodes.
- Superbase 4 (2) Medical files management and accounting.
- PowerBuilder (1/2) Medical files management.
- Embedded SQL (1/2) Archives database.  
(MySQL/PostgreSQL)  
in Python code
- Embedded SQL (1/4) Rules of a complex conversion tool.  
(Oracle) in g++ code
- Design patterns (2) Singleton, proxy and factory.
- Latex/bibtex (2) Papers and slides.
- blas, ctn, octave, gp/pari and scilab (1) Linear algebra, numeric analysis and p-adic analysis.
- S-Plus (1/2) Statistical distributions.
- GKS (Graphic Kernel System) (1/4) Visualization of dynamic models.
- Qt (1/2) Archive database.

## Methods:

- Design by Contract (1/2) Specification for reliable modules.
- Booch methodology (1) Object-oriented development (ADA and C++).
- Buhr diagrams (1/2) Real-time modelling.

- Grafcet (1/2) State diagrams.
- Inspection (1) QA methodology set up for real-time, embedded and critical systems.
- RUP / EUP / ITIL (1) Test team design, issues, incidents, problems, and releases management.
- ISO-9001 (1/2) Quality norm.
- TMAP (1) Risk-based testing (test plan and scenario hierarchy).

### **Tools:**

- Unix programming (10) emacs, make, grep, diff, sed, awk, shell scripting, gcc, gdb. DDD, doxygen, ctags, rcs and cvs.
- KDE programming (2) Umbrello, KDevelop, Qt Designer, Kompare and KRPMBuilder.
- Eclipse (3) IDE (Java, C/C++, Python, Tcl/Tk/Expect, HTML/XML/XSL and UML/XMI).
- CAST tools (1) WinRunner, TestDirector, Badboy, Marathon, Jira, Junit and Cobertura.
- Rational Rose (2) UML diagrams and generation of design documents.
- ClearCase (2) Version control and configuration management.
- MS Office and OpenOffice.org (10) Documentation, presentation and simulation.
- MS Project / PSNext (2) Tasks, human resources and time management.
- Plesk (2) Web administration.
- iGrafx (1) BPMN diagrams.
- TeamWork Workflow (1/2) Architecture and design documentation.
- InterLeaf (1) Document management.
- troff and latex/bibtex (2) Typesetting systems.
- docbook (1/4) Interface with OpenOffice.org to generate latex documents.
- OMNI SignalWare (2) SS7/IS41 signaling protocols.
- Sniffer (1/2) Networking.
- InstallShield (1/2) Software packaging.
- Logiscope (1/4) Ada source code tracing.
- Mathematica (1/2) Optimization and p-adic analysis.
- mencoder/transcode (1) Video stream processing tools.
- Gnuplot (1) Graph-plotting tool.
- GIMP (3) Image processing.

### **Applications:**

- Networking (2) Ethernet, FDDI, TCP/IP, IEEE 1394/Firewire and ATM.
- Signaling and Distributed Architecture (5) Cellular Telecommunications and Air Traffic Control.
- Telecommunications (4) CDMA/TDMA standards, HLR (SS7/IS41 protocols), AAA (CX, Radius protocols), CSCF (SIP protocol), BSC (Abis protocol), OA&M and LDAP.
- Enterprise Content Management (1) Document management (Livelink) and collaborative environment (WackoWiki).

- Intelligent Web Server (2) E-directory server (PHP/Corba).
- Air Traffic Control (1) Signaling.
- Railroad (1) Embedded system for automatic and safety transport.
- RDBMS (2) PowerBuilder, embedded SQL/Oracle and JDBC.
- OO-DB (2) TelOrb DBN, Cello and Corba.
- GUI (2) Measurement curves, intelligent telnet interface, operator interface, and simulator.
- Health (2) Medical file management.
- Accounting (2) Bookkeeping.
- Finance (2) Forecasting (MLP, HMM, mixtures and Kalman filters on time series).
- Social security and e-government (1) Deployment and maintenance of a risk-based testing methodology (TMAP).
- Image Processing (1) Image restoration (FFT and simulated annealing).
- Information Theory (1) Generation of irreducible d,k-local automata.

## **PUBLICATIONS :**

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1. D. Willame (1982), *Notes à propos de la Photographie, des Rayons X, de l'Electronique et des Systèmes Logiques*, Presses Universitaires de l'U.L.B., Bruxelles.

## **ACADEMIC BACKGROUND :**

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June 1994 **M.Sc., Mathematics, major in Computer Sciences** (*Great Distinction*) - Université de Mons-Hainaut (Mons, Belgium).

Dissertation: **Image Restoration with Simulated Annealing and Fast Fourier Transforms**, September 1994, with *The Greatest Distinction* (Statistical Physics and Probability Dept., supervised by Prof. Joël De Coninck).

Student assistant: **Multidimensional Statistics**, Spring 1994, supervised by Prof. Joël De Coninck.

June 1986 **M.D., physician (Doctorate for Medicine, Surgery and Childbirth)** - Université Libre de Bruxelles (Brussels, Belgium).

## **LANGUAGES :**

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- French (mother)
- English (fluent)
- Dutch (school)

## FORMATIONS, PARAPROFESSIONAL ACTIVITIES AND MEMBERSHIP :

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- 2007 : PSNext (planning and projects tracking; Le Bihan, Brussels, Belgium).  
2006 : Business Analysis (impact analysis; SmalS-MvM/Egov, Brussels, Belgium).  
2006 : Test Technics (TMAP; CTG, Brussels, Belgium).  
2003 : CPP (introduction to CPP platform; Ericsson University, Montreal, Canada).  
2002 : OSE (introduction to OSE; Ericsson University, Montreal, Canada).  
2002 : SIP (introduction to SIP; Ericsson University, Montreal, Canada).  
2002 : Corba (distributed development with java; Ericsson University, Montreal, Canada).  
2001 : RUP (Rational Unified Process for software engineers; Rational University, Montreal, Canada).  
2001 : UML and OO A/D (analyse and design of object-oriented applications with UML; Ericsson University, Montreal, Canada).  
1998 : NT (system administration of a Windows NT network; CRIM, Montreal, Canada).  
1997 : MLP (introduction to Multi Layer Perceptrons; DIRO, Université de Montréal, Canada).
- 2005 : UAE administrator (web server deployment).  
2004 : Free researcher at the SLN/IDS lab. (Systèmes Logiques et Numériques / Information and Decision Systems, Faculté des Sciences Appliquées, Université Libre de Bruxelles, Belgium).  
June 2000 : Organization within a volunteer's staff for the Montreal IEEE IT section: "Power-residues, binary matrices with specified properties and error correcting codes" by Prof. Vijay K. Bhargava's (President of IEEE Information Theory Society).  
1999-2001 : Volunteer at IEEE Montreal Section (Information Theory Chapter, and Chapter coordination).  
1994 : Captain of the Reserve, Belgian Armed Forces (Logistics of the "Medical Service").
- since 2007 : The American Association for Advancement of Science (*Science* magazine).  
since 2003 : The Mathematical Association of America (*The American Mathematical Monthly* magazine).  
since 1995 : *The Mathematical Intelligencer* magazine.  
since 1995 : ACM (with *SigSoft*, *SigAda*, *SigAct* and *SigSam* affiliations).  
since 1995 : IEEE (with *Computer Society* affiliation).  
1986-2005 : UAE (Union des Anciens Etudiants de l'ULB).

## ADDITIONAL DATA :

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- Citizenship: Belgian.
- References or more details: Available on request.