Yann Hodique
15 bis, avenue d'Abondance,
74500 Evian
FRANCE
Phone: +33 450 498 790
Mail: yann.hodique@gmail.com

R&D/QA Engineer

Ph.D in Computer Science
M.Sc in Pure Mathematics

EDUCATION

University

2003–2007 – Doctorat (**PhD thesis**) in Computer Science – University of Lille.

2002–2004 – Student at ENS Cachan, one of the major French *Grandes Écoles*.

2002–2003 – DEA (**Master thesis**) in Computer Science, with distinction – University of Rennes.

2001–2002 – Maîtrise (**Master's degree**) in Computer Science, with distinction – University of Lille.

2000–2001 – Maîtrise (**Master's degree**) in Pure Mathematics – University of Lille.
– Licence (**Bachelor's degree**) in Computer Science, with distinction – University of Lille.

1999–2000 – Licence (**Bachelor's degree**) in Pure Mathematics, with distinction – University of Lille.

PROFESSIONAL EXPERIENCE

R&D/QA

2011–... – *Senior Member of Technical Staff* **at VMware, R&D department. – Palo Alto, USA**

– Part of the Datacenter Intelligence team.
– Working on virtualized resources scheduling and use optimization.
– Participating in API design and simulation enhancements.

2008–2011 – *Senior Member of Technical Staff* **at VMware, QA department. – Lausanne, Switzerland**

– Quality Assurance for the vCenter Orchestrator, part of the vSphere suite.
– Initiator/Leader of a security quality initiative.
– R&D contact for design-related decision.
– Technical leader for a remote team (Sofia, Bulgaria)

– Designer/Developer of several in-house test frameworks, using various technologies:
- Web UI framework (Python/Selenium)
- Web service (REST) framework (Python/Twisted)
- Orchestration engine (Javascript)
- Integration in a common execution/reporting structure (Testware)

– Responsible for several specific test campaigns:
- First System Tests
- Scalability Tests
- Test coverage measurement

PROFESSIONAL EXPERIENCE (cont.)

– Company-level contributions:
- Introduction of OS containers (OpenVZ) in large-scale infrastructure simulation
- Initiator/Designer/Developer for various simulation solutions (vCO, vCenter)
- Open-sourcing of vCO helper (Python bindings)

2007–2008 – *R&D engineer* **at Trusted Logic. – Versailles, France**

– Development of an embedded platform for smart cards.
– Responsible for the Information System architecture.
– Member of the Intellectual Property (patents) and Technology Watch groups.
– Participation in research-funded projects.

Research/Teaching

2003–2007 – *PhD student* **at LIFL,** *Teacher assistant* **at University of Lille 1. – Lille, France**

– Design and implementation of a secure object-oriented type system for embedded devices.
– Applicability of static analysis to constraint devices.
– Extensions of escape analysis for object-oriented patterns in embedded systems.
– Courses, directed works, labs (C/C++, algorithms, Shell scripting, System programming).

SKILLS

Known languages

French – Native language.
English – Fluent.
German – School knowledge (7 years).

Computer skills

O.S. – GNU/Linux (daily use), Mac OS X, OpenSolaris, various Unices, Windows (occasional use).

Languages – C, C++, Java, Python, Shell, JavaScript, Lisp, Asm (x86, ARM), ...

Security – Reverse engineering, disassembling, cryptography.

Testing – Various test frameworks (for Java, Python, C++, ...), fuzzing, code coverage, ...

Research interests

Formal methods – Code certification, verification, correctness by design.

Embedded systems – Safety, security, optimization.

Programming – Compilation, extensibility, object and functional paradigms.

PERSONAL INTERESTS

Free software

VMware – Maintainer for vmw.vco. Development of Python bindings for the VMware vCenter Orchestrator.

– Maintainer for vco-gae. Development of a vCO Simulator, based on the Google Appengine framework.

PERSONAL INTERESTS (cont.)

– Languages involved : Python (Twisted).

Emacs

– Co-maintainer for Magit. Modularization of the Emacs Git frontend.

– Developer for Muse (authoring solution in text format) and integration with the Planner platform (organizer and publication framework)

– Contributor for Erbot (official #emacs documentation bot)

– Languages involved : Emacs Lisp, XML.

KDevelop

– Former member of the core team of KDevelop.

– Various developments about version control, user interface, C++ integration, ...

– Languages involved : C++ (Qt).

Misc.

– Many various minor contributions to free software projects : Trac, Bazaar-NG, xosd, Dokuwiki, TopGit, ...

– Several personal projects, see `http://www.hodique.info/projects/index` for details.

– Languages involved : Python, C, C++ (Qt), Scheme, PHP, ...

Hobbies

Books

– Science fiction, fantasy novels.

Music

– Classical music (once a pianist, Gold Medal of Musical Education in 1998).

Sports

– Running, climbing, hiking, skiing.

Bibliography

(7) **A verifiable lightweight escape analysis supporting creational design patterns.**
G. Grimaud, Y. Hodique, and I. Simplot-Ryl.
In *The 2007 IEEE International Symposium on Ubisafe Computing (UbiSafe-07)*, May 2007.

(6) **Sûreté et optimisation par les systèmes de types en contexte ouvert et contraint.** (*(Safety and optimization by typing in the context of open and constraint devices)*)
Y. Hodique.
PhD Thesis, April 2007.

(5) **On the use of metatypes for safe embedded operating system extension.**
G. Grimaud, Y. Hodique, and I. Simplot-Ryl.
In *International Journal of Parallel, Emergent and Distributed Systems (IJPEDS)*, January 2007.

(4) **Can small and open embedded systems benefit from escape analysis?**
G. Grimaud, Y. Hodique, and I. Simplot-Ryl.
In *Workshop on Implementation, Compilation, Optimization of Object-Oriented Languages, Programs and Systems (ICOOOLPS'2006)*, July 2006.

(3) **Secure extensible type system for efficient embedded operating system by using metatypes.**
G. Grimaud, Y. Hodique, and I. Simplot-Ryl.
In *System and Networking for Smart Objects (SaNSO'05)* volume 2, July 2005
(**best paper award**).

(2) **Safe collaboration in extensible operating systems: A study on real time extensions.**
D. Deville, Y. Hodique, and I. Simplot-Ryl.
In *International Journal of Computers and Applications (IJCA)*, January 2005.

(1) **Approximations de stratégies de preuves en réécriture.** (*Proof strategies approximations in rewriting*)
Y. Hodique.
Master's Dissertation, June 2003.