

Yann Hodique
385 River Oaks Pkwy, #5058
San Jose, CA 95134
USA
Phone: (650) 395-8231
Mail: yann.hodique@gmail.com



Team Leader / Software Engineer

Ph.D in Computer Science

M.Sc in Pure Mathematics

EDUCATION

University

- 2003–2007** – Doctorat (PhD thesis) in Computer Science – University of Lille.
- 2002–2003** – DEA (Master thesis) in Computer Science, with distinction – University of Rennes.
- 2002–2004** – Student at **ENS Cachan**, one of the major French *Grandes Écoles*.
- 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

- 2017–now** – *Staff Engineer at Google* – Mountain View, USA
 - Reaching for the cloud...
- 2014–2017** – *Staff Engineer II at VMware*, R&D department. – Palo Alto, USA
 - Making development experience nicer for all VMware engineers.
 - Driving 3rd platform effort for internal tools
 - Developing a resource scheduler for the Hybrid Cloud
 - Integrating Kubernetes with vSphere
 - Researching Unikernels
- 2013–2014** – *Member of Technical Staff at Bromium*. – Cambridge, UK and Cupertino, USA
 - In charge of testing automation for vSentry.
 - Implemented an innovative automation platform by means of nested virtualization technology
 - Implemented automated tests transparently targeting virtualized applications, bridging classical GUI and Web automation (Ldtp and Selenium) across the virtualization boundaries.
 - Focus on internal processes and release cycle, promoted a product-like development strategy for internal tools.
 - Gave internal trainings for the engineering team on Python and Git.
- 2012** – *Team Leader at Nagra*. – Lausanne, Switzerland
 - Responsible for QA & Integration aspects of the **Nagra Media Player**.
 - Responsible for QA & Integration aspects of the transversal **Nagravision Multiscreen** solution.
 - Directly managed a team of 7 engineers, responsible for product validation planning and delivery.

PROFESSIONAL EXPERIENCE (cont.)

- Hands-on engineering activities
 - virtualization-based automation framework for product validation
 - reverse-engineering of anti-DRM strategies and counter-measures implementation

2012

– *Senior Software Engineer at **Ulteo**. – Evian, France (home office)*

- VDI & SBC product.
- Smart card authentication and tunneling, security aspects.
 - implementation of proper PKCS#11, in C/JNI
 - integration in an open source RDP client
- Participation in a project for the French Department of Defense.

2011–2012

– *Senior Member of Technical Staff at **VMware**, R&D department. – Palo Alto, USA and Evian, France (home office)*

- Datacenter Intelligence team, working on resources scheduling and usage optimization.
- Creator of a generic (cross-versions) “replay” framework for customer scenario troubleshooting.
- Worked on new API design and simulation enhancements.
- Worked on a new internal cross-components test harness, and adapted existing tests to it.
- Member of a security taskforce, performed penetration testing and security evaluation on company products.

2008–2011

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

- Quality Assurance for the vCenter Orchestrator (vCO), part of the vSphere suite.
- Initiator/Leader of a security quality initiative, performed design and code reviews, as well as vulnerabilities discovery.
- QA referee for architecture-related decision, definition of a sound security model. Achieved close cooperation with R&D team.
- Technical leader for a remote team (Sofia, Bulgaria), introduced use of Python and good development practices.
- Designer/Developer of several in-house test frameworks.
- Responsible for several specific test campaigns (architecture, framework coding, reporting): system tests, scalability tests, security tests.
- Company-level contributions: introduction of OS containers (OpenVZ, then LXC) in large-scale infrastructure simulation, Open Source activities.

2007–2008

– *Software engineer at **Trusted Logic**. – Versailles, France*

- Development of an embedded platform for smart cards, with a special focus on security.
- Responsible for the Information System architecture: put in place a cross-site secure network and associated services (synchronization, caching).
- Participation in research-funded projects such as Persopolis, aiming at translating physical security processes into equivalent (security-wise) software requirements.
- Definition of a modular architecture for a smart card Operating System assembler, using proper components interfaces.
- Member of the Intellectual Property (patents) and Technological groups.

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).

PROFESSIONAL EXPERIENCE (cont.)

- Administrator for internal servers (source control, documentation, ...).

SKILLS

Known languages

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

Computer skills

- O.S.** – GNU/Linux (daily use, development, administration), Mac OS X, OpenSolaris, various Unices, Windows (occasional use).
- Languages** – Python, Go, C, C++, Java, Shell, JavaScript, Lisp, ...
- Security** – Reverse engineering, disassembling, cryptography.

Research interests

- Formal methods** – Code certification, verification, correctness by design.
- Embedded systems** – Safety, security, optimization.
- Distributed systems** – Scalability, correctness, resilience.
- Programming** – Compilation, extensibility, object and functional paradigms.

PERSONAL INTERESTS

Free software

- VMware** – Ansible roles for [CoreOS/Kubernetes automation](#)
– Go library for [VMware platform interaction](#)
- Emacs** – Former maintainer of [Magit](#).
– Contributor for [Emacs](#), in particular [Org mode](#).
– Main developer for [mockel](#) (mocking framework)
– Main developer for [marshal.el](#) (marshalling framework)
– Main developer for [gh.el](#) (GitHub API client library)
– Main developer for [many other Emacs modules](#)

Hobbies

- Books** – Science fiction, fantasy novels.
- Music** – Classical music (once a pianist, Gold Medal of Musical Education in 1998).
- Sports** – Rock climbing, hiking, skiing.

Bibliography

- **A verifiable lightweight escape analysis supporting creational design patterns.** (short version) G. Grimaud, Y. Hodique, and I. Simplot-Ryl. In *The 2007 IEEE International Symposium on Ubisafe Computing (UbiSafe-07)*, May 2007.
- **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.
- **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.
- **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.
- **A verifiable lightweight escape analysis supporting creational design patterns.** (long version) G. Grimaud, Y. Hodique, and I. Simplot-Ryl. In *INRIA Research Report*, June 2006.
- **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).
- **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.
- **Approximations de stratégies de preuves en réécriture.** (*Proof strategies approximations in rewriting*) Y. Hodique. Master's Dissertation, June 2003.