

Marc Poulhiès

PhD in Computer Science

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December 18th 1981

French nationality

Professional experience

since 2009 Software engineer at VERIMAG, Grenoble, France
description Extension of the component model designed in the Minalogic MIND project for dataflow systems. Development of the tools (e.g. compiler) for the cogeneration of an executable for embedded hardware and a formal model in BIP for validation. I'm also involved in developments in the BIP community (compiler, tools, documentation).
keywords operating systems, embedded systems, real time, formal model, compilation, software components, software development

Phd project *Behavior modeling in embedded real-time component-based operating systems*
2005 - 2009 France Telecom R&D/Orange Labs & VERIMAG, Grenoble, France
supervisors Joseph Sifakis (VERIMAG), Jacques Pulou (Orange Labs)
description The work aims at developing the tools needed for the faithful cogeneration of a formal model together with an executable image of an operating system kernel. The formal part relies on the BIP language from VERIMAG. The tools have been mainly developed by extending the Think compiler from Orange Labs. Prototypes have been developed for ARM (SAM7, iPod), AVR (ATmega 2561) and TI MSP430.
keywords operating systems, embedded systems, real time, formal model, compilation, software components

Master project *Study and rebuild of an automated system for the secure distribution of information on a large scale*
jan. - sept. 2005 CERN (European Organization for Nuclear Research), Geneva, Switzerland
supervisors Vladimyr Bahyl
description Integration of a flexible and automated system for the secure distribution of sensible information (passwords, certificates, ...) over the different computing farms and interactive clusters (2000+ nodes). This work took place in prevision of the commissioning of the new particle accelerator (LHC) and is still in use.
keywords Perl, SSL, x509, SSH, Apache, Quattor project

Research internship *Development of an IPv6 DHCP server*
sept. - dec. 2004 Drakkar team in IMAG, Grenoble, France
supervisors Frank Rousseau, Andrzej Duda
description Complete implementation, in Java, following several RFCs of a server for the automatic configuration of the IPv6 parameters (ie. DHCPv6). It allows the dynamic addition/removal of configuration items (DHCP's 'options').
keywords Java, IPv6, DHCP.

Industrial internship *Software development*
jul. - aug. 2004 SPK, Lyon, France
description Software developer and consultant in a newly created company for the video surveillance over internet. Building of a prototype software platform that relays video alarms encoded accordingly to the recipient's device (computer, smartphone/PDA over GPRS, UMTS). Complete setup of internal servers for web/ftp/mail/files.
keywords Python, video encoding and streaming (RTP/RTSP), GPRS, UMTS, VPN.

Research internship *Encrypting file system for the GNU Hurd*
jan. - jul. 2003 Security lab in EPFL (LASEC)
supervisor Philippe Oeschlin
description Implementation of an encrypting module for the "store" abstraction layer of the GNU operating system (GNU Hurd). This system is based on a micro-kernel architecture: GNU Mach and OSKit Mach were used during this work. The implementation relies on the OpenSSL library.
keywords OpenSSL, Cryptography, micro-kernel

Teaching Teaching-assistant
2002, 2003 EPFL, Lausanne, Switzerland
description Teaching-assistant for different C and C++ courses in the environmental and materials science eng. at EPFL. Involved in labs and exam correction.

Languages

french : native **english** : fluent **spanish** : scholar

Studies

March 2010 **Phd in Computer science**, *VERIMAG & Orange Labs*, Grenoble, France.
2005 **M.Sc. in Computer Science**, *EPFL (École Polytechnique Fédérale de Lausanne)*, Lausanne, Switzerland.
2003-2004 **Exchange with ENSIMAG school**, *cluster network*, Grenoble, France.
2000-2005 **Computer Engineering School**, *EPFL*, Lausanne, Switzerland.

Skills

Operating Systems GNU/Linux (extensive knowledge), other Unix-based, MS Windows
Languages Excellent adaptation abilities. Good knowledge of C, Python, Java and average level in C++ and PHP.
Misc. GNU tools (gcc/gdb/binutils, shells, ...), SCM (git, subversion), \LaTeX , web (xhtml, css, javascript), SGBD, compiler technologies, network protocols.

Extra activities

Sports Paragliding (competitor, qualified for tandems), hiking, snowboarding
Leisure movies, music
Free software Involved in various free software projects

