

Dr. SIX Lancelot

Software Engineer

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I am a research engineer mainly working in developing and maintaining high performances simulation tools. I have been contributing to multiple free and open sources projects over the years, mainly through my activity as a maintainer of the NixOS operating system. I am willing to move forward to a position where I can contribute to FOSS and build foundation tools on which users can rely on.

Work experiences

- Since 2013 **Research engineer**, *Quiet-Oceans*, Brest, France.
Quiet-Oceans is a leading consulting company specialized in under-water noise study. We offer both *in situ* measurement and analyses of noise with custom-made instruments and software as well as noise map modelings. Modeling software developed by Quiet-Oceans is used to estimate, understand and evaluate risk mitigation strategies for human activities at sea.
Main responsibilities :
 - Develop and maintain the high performance simulation tool “Quonops” (C++), and associated statistical analysis tools (Python and C++) — Lead developer,
 - Develop embedded software for sound acquisition and processing in close relation with acousticians (C++ / Python) — Lead developer,
 - System administration of our modeling cluster,
 - Creation of “Quonops Online Services”, a web platform built around Quonops’ capabilities (Python) — Team member.**Keywords** : C++, HPC, Python, Haskell, Kubernetes
- 2018 **Teacher (lab work supervisor)**, *IMT-atlantique*, Brest, France.
Supervising labs about distributed programming in the Engineering school. Technologies involved ranged from plain sockets to MPI programming (in C and C++).
- 2010–2013 **Doctoral candidate**, *IFSTTAR*, Paris, France.
My research focussed on multi-agent system based simulation models during my PhD. I improved an existing road traffic microscopic model while proposing a validation driven incremental development process.
Keywords : Software Engineering methodology, Multi-Agent Systems, Archisim
- 2010–2013 **Teacher (seminar teacher and lab work supervisor)**, *Pierre and Marie Curie University (Sorbonne University)*, Paris, France.
Teaching C, Java, Assembly (introduction) Scheme and mathematics applied to computer sciences to bachelor students (seminars and practical work sessions).
- 2010 (6 month) **Intern**, *Gemalto* — *R&D*, Beijing, China.
I worked on a high availability (HA) telecommunications platform. I was in charge of designing and implementing and testing the HA aspects of the application, which includes replication, configuration synchronisation and recovery.
Keywords : Java EE
- 2009–2010 **Developer**, *Pentila*, Le bourget-du-lac, France.
Development of a digital working environment designed to be used in middle School in Savoie - France.
- 2009 **Intern**, *Pentila*, Le bourget-du-lac, France.
Framework assesment to prepare the development of a digital working environment.

Education

- 2010–2014 **PhD in Computer Sciences**, *Pierre and Marie Curie University (Sorbonne University)*, Paris, France.
Development of Multi-Agent System based simulation tool to study road traffic. *"Towards a heavy vehicles behavioural model using an incremental verification based approach and hysteresis: The ArchiPL model"*. Thesis defended on November 5th, 2014
- 2009–2010 **Master degree in Computer Sciences**, *Savoie Mont Blanc University*, Chambéry, France.
- 2008–2009 **Bachelor of honours in Software development**, *GMIT*, Galway, Ireland.
Bachelor degree done in the context of the european ERASMUS program.
- 2005–2008 **Bachelor in Computer Sciences**, *Savoie Mont Blanc University*, Chambéry, France.

Professional Skills

- Languages French (native), English (fluent)
- Programming languages C++, Python, Haskell, Ada
- Tools SCM (git), nix, autotools, cmake, gdb
- System administration GNU/Linux
- Other Work with a remote and distributed team (online communication, peer review)

Free Software contributions

- Since 2014 **Maintainer within the NixOS project (<https://nixos.org>)**.
Regular contributions to the NixOS operating system. I am now a maintainer with commit access.
- 2012–2015 **Member of Ada-France**.
Ada-France is the French user group of the Ada programming language. It organises meetings, presentations in FOSS conferences...
- **Various FOSS contributions**.
Over the years, I have contributed to FOSS projects (QGis, i3, poezio...), mainly to improve support of various operating systems (including NixOS).

Interests and Activities

- Hobbies Woodworking, Free software contributor and supporter
- Sport Boulderling
- Traveling Cycle touring
- Computer sciences I study functional programming languages (mainly Haskell). This proves to be beneficial in my daily work as a C++/Python developer.