

Julien Le Guen

Software Engineer, Ph.D. Candidate

Static Analysis & Abstract Interpretation
Compilation & Embedded Systems

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OBJECTIVES Engineering Position in Software Development

CURRENT POSITION

2009– **Young Researcher in Compilation** STMicroelectronics *Grenoble, France*
Topic Static Analysis of SSA Programs using Abstract Interpretation
Working with ST compilation team and VERIMAG CNRS laboratory on using static analysis by abstract interpretation in compilers, in particular targeting Open64 for SIMD processors. Developed analyses using complex abstract domains to model relational properties of variables. Participating to the development of MINIR, a compiler-independent intermediate representation, and created a static analyzer used to test novel algorithms as part of my Ph.D. thesis work.
Skills Python, C, C++, Abstract interpretation, algorithms

PAST EXPERIENCE

2008 **Guest Researcher** NIST
7 months Developed a sensor network testbed to study the importance of time-synchronization and accuracy of time-stamping events.
Skills: C, ASM, 8bits μ C.
Gaithersburg, MD, USA
2007 **Embedded Software Developer** 6WIND
3 months Conceived, developed and integrated an IPv6 fast-forwarding module for routers based on Multi-Processors System on Chip.
Skills: C, Multicore, Networking.
St. Quentin en Yvelines, France
2006 **Robotics Developer** MaIA, INRIA
3 months Developed a low-level library (movements, vision) for autonomous robots control.
Skills: C, ASM, Embedded GNU/Linux.
Nancy, France

INTERESTS

Robotics 5 participations to the French robotics cup (2005–2010), one participation to Eurobot international cup (2011).
Reading Technical literature, Science Fiction, etc.
Outdoors Hiking, Climbing, Skiing, Photography, etc.

PUBLICATIONS

- Julien Le Guen, Guillon Christophe, and Fabrice Rastello. MINIR, a Minimalistic Intermediate Representation. *Workshop on Intermediate Representations (WIR)*, April 2011.
- David Monniaux and Julien Le Guen. Stratified Static Analysis Based on Variable Dependencies. *Workshop on Numerical and Symbolic Abstract Domains (NSAD)*, September 2011.

SKILLS

Languages C, Python, ASM *good knowledge*
Shell, C++, Java, VHDL *knowledge*
Compilers Open64, GCC, LLVM
Tools GNU tools (gcc, gdb, valgrind, etc.),
Vim, L^AT_EX
OS Unix-like, Embedded GNU/Linux
Misc. CAD (Catia, Eagle), OpenCV

LANGUAGES

French Native speaker
English TOEIC 925, worked in the USA
German Notions

EDUCATION

2005–08 **M.Sc. Computer Science** ESIAL
Rank Courses comprise: Formal meth-
2/77 ods, Embedded software, Compila-
tion, Software engineering
Nancy, France
2003–05 **DEUG** Université Henri Poincaré
Highest Two year university degree in Elec-
honors tronics and Computer Science
Nancy, France