

Damien DOSIMONT

Experience

2012–Present **Beginning Researcher**, *INRIA Rhône-Alpes*, Montbonnot Saint-Martin, 38330, France.

Embedded system software trace analysis based on visualization, aggregation and interaction techniques:

- Bibliography study on trace, information and scientific visualization domains
- Trace visualization tool design
- Two peer-reviewed publications
- Communications, work presentations
- Research reports writing
- Interaction with industrial partners (STMicroelectronics)
- Teachings in Polytech'Grenoble engineering school

2011 (6 months) **Intern**, *Thales Communications and Security, S.A.*, Colombes, 92700, France.

Performance studies and benchmarks realization for different types of software and hardware real-time and embedded architectures:

- Bibliography study on middlewares, lowpower scheduling, POSIX synchronization and communication mechanisms
- Lowpower algorithm implementation in an ORB benchmark and feasibility study
- Multicore management integration in a POSIX synchronization and communication benchmark
- Test on various OS and hardware architecture to evaluate their POSIX implementation performance
- Technical reports and documentation writing
- Master thesis writing

2010 (2 Months) **Research Engineer**, *LIP6, Université Pierre et Marie Curie Paris VI*, Paris 5e, France.

Design space exploration of a telecommunication application on MPSoC (following a 6 month scholar project):

- Bibliography study on virtual prototyping and design space exploration
- Software and hardware architecture automatic generator tool design
- Performance analysis and choice of the better virtual architecture
- Major bugs in the design space exploration framework highlighting and correction
- Research report writing

Education

2012–present **PhD, Computer Science** (ongoing), *Université Joseph Fourier*, Grenoble I.

Thesis title: Aggregation and multiscale visualization for embedded system software trace analysis

Advisers: Dr. Guillaume Huard & Dr. Jean-Marc Vincent

2009–2011 **MSc, Computer Science**, *Université Pierre et Marie Curie*, Paris VI, *with honours*.
specialism in Architecture and Conception of Integrated Systems

2005–2009 **BSc, Electronics**, *Université Pierre et Marie Curie*, Paris VI, *with honours*.

Research Interests

Trace Visualization

SoC-Trace Project I work on the SoC-Trace project, which gathers academics like INRIA, LIG laboratory, and industrial partners like STMicroelectronics, Probayes or Magillem. The main objective of this project is to analyze multimedia application behavior, running on multicore architectures, and be able to detect behavior disruptions responsible of streaming flow perturbations. My research are related to visualization of traces provided by these software execution, and are mainly focused on aggregation and interaction solutions, in order to enable the analyst to deal with big amounts of data and screen limitations. The aim is to propose an overview technique solving both time and space scalability issues, used as an entry point to the analysis, and giving the user a way to focus on interesting parts of the trace.

Teaching Experience

Polytech'Grenoble Engineering School

2012–2013 **C++** practicals, E2I 4th year
Unix Project practicals, 3I 4th year
APO (Algorithmic and Object Programming) practicals, TIS 3rd year
AL (Software Architecture) practicals, TIS 3rd year

Language Skills

French **Mother Tongue**
English **Advanced**
German **Basic**

Programming Languages

Main **C, C++, Java, Python**, Bash Shell, ASM, SystemC, VHDL, HTML
Notions Esterel, Lustre, VHDL-AMS

Publications

- [1] G. Pagano, D. Dosimont, G. Huard, V. Marangozova-Martin, J-M. Vincent, Trace Management and Analysis for Embedded Systems, *Proceedings of IEEE 7th International Symposium on Embedded Multicore/Many-core SoCs (MCSoc'13)*, (2013)
- [2] D. Dosimont, G. Huard, J-M. Vincent, La visualisation de traces, support à l'analyse, déverminage et optimisation d'applications de calcul haute performance, *Actes de l'atelier Visualisation d'informations, interaction et fouille de données (VIF) de la 13e Conférence Francophone sur l'Extraction et la Gestion des Connaissances (EGC'2013)*, pp.55-66 (2013) (French)

References

Ph.D Thesis Advisers

Guillaume Huard Associate Professor, Université Joseph Fourier, Grenoble I
INRIA Rhône-Alpes, B103, 655 avenue de l'Europe, Montbonnot - 38334 St Ismier, France
✉ guillaume.huard@imag.fr

Jean-Marc Vincent Associate Professor, Université Joseph Fourier, Grenoble I
INRIA Rhône-Alpes, B218, 655 avenue de l'Europe, Montbonnot - 38334 St Ismier, France
✉ jean-marc.vincent@imag.fr

Academic Internship Advisers

- Daniela Genius Associate Professor, Université Pierre et Marie Curie, Paris VI
Maison de la Pedagogie, A004, 4 Place Jussieu, Paris 5ème
✉ daniela.genius@lip6.fr
- Emmanuelle Encrenaz Associate Professor, Université Pierre et Marie Curie, Paris VI
Maison de la Pedagogie, A114, 4 Place Jussieu, Paris 5ème
✉ emmanuelle.encrenaz@lip6.fr

Professional Internship Adviser

- Julien Maréchal Software Engineer, Thales Communications and Security, S.A.
4 Avenue des Louvresses, 92230 Gennevilliers
✉ julien.marechal@thalesgroup.com

Interests

- Technologies Video games, programming
- Music Computer music, guitar, bass guitar, saxophon
- Sports Mountain bike, running
- Literature Science fiction, classical, detective novels