Pierre Donat-Bouillud

Education

ongoing **PhD**, *Université Pierre et Marie Curie*, Paris, *Modeling, analyzing and executing cyber-temporal systems*.
At Ircam, STMS laboratory. Supervized by Florent Jacquemard and Jean-Louis Giavitto.

2016 – 2019 **Awarded *ENS* PhD Scholarship**.

November 2015 **EMSIG autumn school on cyberphysical systems**, *Aalborg university – Technical university of Denmark*, Copenhague.

2013–2015 **Master's degree (MSc) in computer science (Advanced Degree)**, *Ecole normale supérieure de Rennes*, Rennes.
Former ENS Cachan Britanny branch. It is one of four highly competitive and top ranked French higher institutions which prepare students to become professors/researchers.

2012–2013 **Bachelor's degree (BSc) in computer science (Advanced Degree)**, *Ecole normale supérieure de Rennes*, Rennes.

2012–2016 **Awarded State Scholarship of Excellence - "normalien" status**.

2010–2012 **Post-secondary preparatory classes**, *Lycée Henri IV*, Paris.
- University-level courses required in preparation for competitive entrance exams into top engineering and graduate schools (France's "Grandes écoles")
- Main subjects studied: maths, physics, computer science

2010 **Baccalauréat**, *Lycée Henri IV*, Paris.
Main diploma required to pursue university studies.

Research experience

January–June 2016 **Research intern**, *Paris Lodron University*, Salzburg.
Worked on adaptative scheduling in multimedia system: designed a degradation algorithm for audio graphs. Supervisor: Christoph Kirsch

September–December 2015 **Research intern**, *Ircam*, Paris.
Studied buffer types for audio processing in Antescofo. Supervisors: Florent Jacquemard and Arshia Cont

Février–June 2015 **Research intern**, *Ircam*, Paris.
Built an audio processing framework for Antescofo and devised a static analysis on Antescofo programs to check schedulability of audio tasks. Supervisors: Florent Jacquemard and Arshia Cont

May–August 2014 **Research intern**, *University College London*, London.
Automatic music analysis: developed new methods based on compression to find dependencies among patterns in a score. Supervisor: Nicolas Gold

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2013–2014 **1st year of master's research project**, *ENS Rennes – Inria Rennes – Rennes 1 university*, Rennes.
Reviewed job schedulers in Hadopp and created and evaluated new ones. Supervisor: Shadi Ibrahim

Mai–Juillet 2013 **Research intern**, *Ircam*, Paris.
Designed and implemented a new algorithm based on rewrite rules on rhythm trees to transcribe musical events in audio or midi, into rhythms on a score. Supervisors: Florent Jacquemard and Jean Bresson

Research interests

- Formal semantics for timed languages, types, static analysis
- Symbolic representations for music
- Processing, synthesis and analysis of sound
- Scheduling for real-time systems

Publications

[1] Pierre Donat-Bouillud, Florent Jacquemard, and Masahiko Sakai. Towards an Equational Theory of Rhythm Notation. In *Music Encoding Conference 2015*, Florence, Italy, May 2015.

[2] Florent Jacquemard, Pierre Donat-Bouillud, and Jean Bresson. A Structural Theory of Rhythm Notation based on Tree Representations and Term Rewriting. In David Meredith Tom Collins and Anja Volk, editors, *Mathematics and Computation in Music: 5th International Conference, MCM 2015*, volume 9110 of *Lecture Notes in Artificial Intelligence*, page 12, London, United Kingdom, June 2015. Oscar Bandtlow and Elaine Chew, Springer.

[3] Florent Jacquemard, Pierre Donat-Bouillud, and Jean Bresson. A Term Rewriting Based Structural Theory of Rhythm Notation. Research report, ANR-13-JS02-0004-01 - EFFICACe, March 2015.

[4] Nathanaël Cheriere, Pierre Donat-Bouillud, Shadi Ibrahim, and Matthieu Simonin. On the Usability of Shortest Remaining Time First Policy in Shared Hadoop Clusters. In *SAC 2016-The 31st ACM/SIGAPP Symposium on Applied Computing*, Pisa, Italy, April 2016.

[5] Pierre Donat-Bouillud, Jean-Louis Giavitto, Arshia Cont, Nicolas Schmidt Gubbins, and Yann Orlarey. Embedding native audio-processing in a score following system with quasi sample accuracy. In *Proceedings of the International Computer Music Conference*. ICMC, September 2016.

Teaching experience

September–December 2016 **Practical sessions for Fundamentals of programming**, *Université Pierre et Marie Curie*, Paris.
First computer science course for first year bachelor students. Basics of computer science, in Python.

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Seminars

Febraury 18th, 2016	Course – workshop on Antescofo at CNMAT, UC Berkeley
February 22nd, 2016	New features and current research on Antescofo at CCRMA, Stanford university

Grants

March 2016	BMVIT grant (Austrian ministry for transports, innovation and technology) to attend the conferences of CPS Week 2016

Languages

French	**Native tongue**	
English	**Fluent**	*TOEIC 2013 : 950/990*
Spanish	**Moderate**	
Russe	**Beginner**	
Latin	**Only written**	*First prize high school category at the European competition Cicero 2008*
Ancient Greek	**Only written**	*Distinction at French national Ancient Greek competition* Concours général de grec *2009*

Computer skills

programming languages	Ocaml, C, C++, Rust, Java, Python, Bash	Web	HTML/CSS
Environments	GNU/Linux (Gentoo, Debian), MS Windows, Mac OS X		
Misc	LaTeX, tikz, beamer, LibreOffice, emacs		

Interests

Music

Since 2001	French horn player
2012–2015	**Harmony and Counterpoint**, *Regional conservatory of music*, Rennes.

Sport

Handball	Referee for the local French university sport federation in 2012–2013

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