



Nathanaël Sensfelder

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Computer Science Applied to Astronautics

Work Experience

2017-2020 **PhD - Exposition and Control of the Interference Caused by Cache Coherence in Multicore COTS**, ONERA, Supervised by Claire Pagetti & Julien Brunel.

Education

2016-2017 **Advanced Master in Embedded Systems**, Institut Supérieur de l'Aéronautique et de l'Espace.

2015-2016 **Master 2 - Computer Science Research**, University of Toulouse III - Paul Sabatier, Focused on concurrent programming, logic, multi-agent systems, and scheduling.
M2 Recherche - Informatique et Télécommunications

2014-2015 **Master 1 - Artificial Intelligence & Pattern Recognition**, University of Toulouse III - Paul Sabatier.
M1 Intelligence Artificielle & Reconnaissance des Formes

2011-2014 **Computer Science degree**, ISTIC - Université de Rennes 1, Grade B pass.

2011 **High school diploma in sciences**, External candidate.

Skills

Linguistics French (native) & English (bilingual, TOEIC score: 990/990)

- Computer Science
- Formal Logic (Modal, Fuzzy)
 - Formal Specification (TLA⁺, UPPAAL)
 - Distributed Computing
 - Parallel Computing
 - Embedded Systems
 - Networks (CAN, SPACEWIRE, 1553B)
 - GNU/Linux Administration (GENTOO)
 - System Dependability (ALTARICA)
 - Imperative Programming (C)
 - Object Oriented Programming (JAVA)
 - Dataflow Programming (VHDL, LUSTRE)
 - Functional Programming (ERLANG, ELM, SCHEME, OCAML)
 - Web (HTML, CSS, JS)

Internships

- 2017 **Paid**, ONERA, Research Institute.
(6 months) Validating VHDL code using temporal logic.
- 2016 **Paid**, IRIT - ENSEEIHT, Research Institute.
(6 months) Research on the verification and the adaptation of distributed service protocols.
- 2013 **Paid**, Telecom Bretagne, Grande École in Brest.
(2 months) Study and validation of multiple distributed web hosting platforms for internal use.
- 2012 **Unpaid**, MerAlliance, SME in Quimper.
(1 month) Database reorganization and ETL process establishment. Study and establishment of a file and calendar sharing server according to existing constraints.

Teachings

- 2019-2020 **Real-Time Systems**, INSA.
- 2019-2020 **TLA⁺ Modeling**, ENSEEIHT.
- 2019 **Real-Time Systems**, ISAE.
- 2017-2019 **AltaRica Modeling**, ISAE.
- 2018-2019 **Lustre Programming**, ENSEEIHT.
- 2018 **C Programming**, ISAE.
- 2018 **SDL Modeling**, ENSEEIHT.

Miscellaneous

- B driving license, owns a car.
- Various projects on <https://github.com/nsensfel>.
- Organizes English board games sessions.

Publications (as 1st Author)

- ECRTS 2020 **Identifying Cache Coherence on the NXP QorIQ T4240**, Main Author.
- ECRTS 2019 **Modeling Cache Coherence to Expose Interference**, Main Author.
- DCAI 2017 **Inference of Channel Priorities for Asynchronous Communication**, Main Author.