

# Henrick Deschamps

Eng. and Ph.D. in Computer Engineering and Network · Real-Time Distributed Systems Specialist

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## Skills

<b>Programming</b>	Expertise in C++, Python, C, asm (x86-64, Arm) · Efficient in Java, Rust, Bash, $\LaTeX$ , Ada
<b>Software craftsmanship</b>	Modeling (UML, SysML, AADL) · Validation (static code analysis, runtime profiling) · Debug (gdb, r2) · Versioning (git, svn...) · virtualization · tests definition and automation · continuous integration
<b>Frameworks and libraries</b>	Distribution (HLA CERTI, MQTT) · Multiprocessing (POSIX, MPI, OpenMP) · Security (OpenSSL) · Network (nl, Linux kernel skbuff, libpcap) · GUI (Qt, Gtk)
<b>Languages</b>	French (Native), English (fluent), Chinese Mandarin - Korean (amateur)

## Work Experience

### SoundHound, Inc

*Remote - Paris, France*

Software Engineer

*Jul. 2021 - now*

International team (US|Europe|Asia) based in US, California. Implementation of cross-platform embedded products for automotive and IoT markets, in C, C++ and assembly. Low-Level software security, code obfuscation for IP protection and license enforcement system implementation. Designer and maintainer for Android JNI for embedded products port to Android automotive.

### Thales Group, Big Computing Competence Center

*Toulouse, France*

Software Engineer, Technical leader

*Sep. 2019 - Jul. 2021*

R&D and IVV activities, co-designer and lead back-end developer of a small team for a near-RT secured distributed orchestration system in C++, Python and Go for AI and data exploitation. Support team member for test pilot phase for European Space Agency project Euclid.

Recognized as a technical leader by the Thales Experts Committee.

### Airbus, Commercial Aircraft, Simulation department

*Toulouse, France*

Software Engineer, Ph.D. Candidate

*Mar. 2016 - Mar. 2019*

R&D activities as part of the industrial co-supervision of the Ph.D., designer and developer of a distributed simulation framework in C++, from very high level to low level Linux Kernel, avionic simulations use case and AI cross-platform allocation tool in Python.

### ISAE-Supaero (Superior Institute of Aeronautics and Space)

*Toulouse, France*

ATER (Temporary Teaching and Research Assistant)

*Mar. 2016 - Jul. 2019*

Teaching assistant in CS courses: C, embedded real-time systems, MBSE, mobile networks, software defined radio, Ada, and numerical analysis

### Viveris Technology for Thales Alenia Space

*Toulouse, France*

Software Engineer

*Dec. 2014 - Feb. 2016*

Implementation of a DVB-RCS2 communication protocol Linux kernel module for cross-platform targets (Linux / Arm embedded) in C with SDN in Python

## Published Projects

Seaplanes and RROSACE

A distributed simulation framework for simulators scheduling and interconnection - available on Github at [hnrck/seaplanes](#).

Return Link Encapsulation Library (RLE)

An Open Source library implementation of the RLE standard defined by the ETSI - available on Github at [CNES/librle](#)

## Education

### ISAE-Supaero (Superior Institute of Aeronautics and Space)

*Toulouse, France*

Ph.D.-Eng. in Computer Science, at Department of Complex Systems Engineering

*2016 - 2019*

Industrial Ph.D. thesis entitled Scheduling of a cyber-physical system simulation supervised by Prs. Pierre Siron and Janette Cardoso.

### INSA (National Institute of Applied Sciences)

*Toulouse, France*

M.Eng. in Computer Engineering and Communication Networks

*2009 - 2014*

Specialized in Critical Distributed Systems, Subspecialized in Computer Security.

Academic internship at LAAS-CNRS with Pr. Daniela Dragomirescu on Software Defined Radio for Avionics and IoT applications.

Final year internship at Airbus Group Innovations on Avionics Ethernet Simulation and packets scheduling.

Exchange semester at the Ottawa University in Canada, GPA 4.2.

