

# Steven Varoumas

PhD in Computer Science

## About me

My main domains of expertise are embedded systems, programming languages and compilers.

I graduated with a PhD in computer science from Sorbonne University, in Paris, France.

French is my native language and I am fully proficient in English.

I am a fast learner, passionate about problem solving and software development.

## Areas of specialisation

- Functional Programming
- Compilers / Virtual Machines
- Embedded Software

## Spoken languages

- **French:** Fluent (mother tongue)
- **English:** Full proficiency
- **Spanish:** Limited

## Tools & programming languages

OCaml

C & C++

git


L<sup>A</sup>T<sub>E</sub>X

Java

LLVM

Python

Haskell






 [stevenvar.github.io](https://github.com/stevenvar)

 [github.com/stevenvar](https://github.com/stevenvar)

## DEGREES

- 2019 **Ph.D in Computer Science** · Sorbonne University (Paris, France)  
"High-level programming models for microcontrollers with scarce resources" supervised by T. Crolard (Cnam), P. Trébuchet (ANSSI) and E. Chailloux (LIP6)
- 2015 **M.Sc in Computer Science** · Pierre and Marie Curie University (Paris, France)  
Science and Technology of Software - magna cum laude distinction
- 2012 **B.Sc in Computer Science** · Pierre and Marie Curie University (Paris, France)  
Programming and Software Development - cum laude distinction

## WORK EXPERIENCE

- Jan 21 - now | **Compiler Engineer** · Huawei UK R&D (Cambridge, UK)  
Working on cutting edge compiler technologies. 
- Dec 19 - Sep 20 | **Research Associate** · University of Kent (Canterbury, UK)  
"Trustworthy Refactoring" project  
- Development of an **automatic refactoring tool** for OCaml code and extension to new kinds of refactorings.  
- Proposed and developed a method to perform automatised **equivalence checking** between two versions of a same program. 
- Sep 19 - Nov 19 | **Studies Engineer** · LIP6 laboratory (Paris, France)  
Sorbonne University  
- Worked for the **industrial LCHIP project** in collaboration with the company *Clearsy* that develops engineering methods and tools for **safety critical systems**.  
- Adapted a lightweight OCaml virtual machine for a secured runtime platform that uses PIC32 microcontrollers. 
- Sep 18 - Aug 19 | **Research and Teaching Associate** · Sorbonne University (Paris, France)  
- Finalised the redaction of my PhD thesis.  
- Taught ~200 hours of CS classes for under and post graduates. 
- Oct 15 - Aug 18 | **Contractual PhD Student / Teaching Assistant** · Pierre and Marie Curie University (Paris, France)  
- Co-created and developed a **portable OCaml virtual machine** which can run on devices with very limited resources (**microcontrollers, FPGAs,...**).  
- Created OCaLustre, a **synchronous programming language** for **concurrent embedded systems**.  
- Developed a **static analysis tool** to compute worst-case execution time of an OCaLustre program, for critical embedded system.  
- Taught approx. 200 hours of computer science classes for undergraduates. 

## INTERNSHIPS

- Feb 2015 - Aug 2015 | **"Concurrent programming models for microcontrollers"** · Paris 6 Computer Science Laboratory (LIP6) (Paris, France)
- Jun 2014 - Jul 2014 | **"Developing a musical editor for the Web"** · Institute for Research and Coordination in Acoustics/Music (IRCAM) (Paris, France)