

# Raphael Amiard

Senior compiler and language frontend engineer

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I am a language geek. My passion is in compilers and language design. I developed several interpreters, worked on a few compilers, and designed or helped design several computer languages.

I'm fluent in many computer languages, and can learn new ones easily.

## *Work experience*

### **2013-2023 - [AdaCore](#)**

Compiler/language front-end engineer. Lead developer/team manager

- Lead developer/manager of the [Libadalang](#) & [Langkit](#) projects.
  - Ada front-end which powers a big portion of the Ada tools at AdaCore, including our IDEs, code style checkers, and static analysis tools
  - I originally started the projects on my own, closely followed by a colleague
  - 10 years later I manage a 5 developer team driving the development/maintenance/R&D around those projects.
  - Presentation about Langkit at FOSDEM 2018: [Langkit: source code analyzers for the masses](#)
  - Presentation about Libadalang at FOSDEM 2018: [Easy Ada Tooling with Libadalang](#)
- Lead developer & manager of [LKQL](#), a query language for syntax trees.
  - Powers the [GNATcheck](#) style checker
  - Allows the quick & easy definition of checkers from syntax patterns
- Member of the Ada Rapporteur Group (group in charge of the standardization of the Ada language) since 2015.
- Lead [language design at AdaCore](#).
  - Role: Leading & coordinating the working groups around language evolutions.
  - Led working group on [pattern matching](#)
  - Leading working group on [improved generics](#)
- Initial developer (together with [@derodat](#)) of the [GNAT-llvm](#) project, a middle-end for the GNAT compiler to emit LLVM IR.
- Co-authored and presented [Application of SMT in a Meta-Compiler: A Logic DSL for Specifying Type Systems](#), together with [Romain Beguet](#).
- Co-wrote the [Introduction to Ada](#) course/book.

### **2016-2023 - [EPITA](#)**

- Teacher at EPITA for the **GISTRE** (Génie Informatique des systèmes temps réel et embarqués) major.
- Teaching [Ada](#), realtime/embedded programming, and [Rust](#) since 2020.

### **2012 - [Google Summer of Code](#):**

- Modularisation of the ClojureScript compiler's backend (Clojure to Javascript compiler).
- [Development of a new Lua backend](#).

### 2010-2011 - Freelance web developer:

- Freelance for **e-loue** – Python – Django development. Development of a dynamic application backed by a rest API, using Django/Tastypie and backbone.js.
- Four months internship at **Paperblog** – news and information website, using Python – Django Infrastructure and front-end development. Web scraping engine using Coffeescript.

### *Education*

- **2010-2012** Master « Distributed systems and applications » - Pierre et Marie Curie (Paris VI) university
- **2008-2010** Licence in Computer Science – first class - Pierre et Marie Curie (Paris VI) university
- **2003-2008** Master in Human Sciences, Sociology major - René Descartes (Paris V) university

### *Others*

#### Personal projects

- [Camllvm](#) - An LLVM based bytecode compiler for OCaml.
- [ada-synth-lib](#) - A very simple sound/music synthesis library.
- [lune](#) - A small functional language with Hindley-Milner type inference and typeclasses

#### Personal interests

- Electronic music creator and lover. Released several projects in digital or vinyl over the years.
- Co-created the <https://excellentchoix.bandcamp.com/> music label