

Nicolas LAURENT

Software Engineer, PhD

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Address & phone number available on demand

norswap.com

github.com/norswap

Remote: ✓ / Relocate: ✓

web version: norswap.com/resume

Experience & Education

Core Developer Apprenticeship

June-October 2021

Ethereum Foundation, Remote

I was selected as one of about ten grant recipients for the core developer apprenticeship, in a pool of more than 400 applicants.

As part of the (still ongoing) apprenticeship, I went from barely knowing what a blockchain was to understanding Ethereum in depth, wrote a state-of-the-art reviews on blockchain state expiry and a research proposal on miner extracted value. I also wrote my own implementation of a large chunk of Ethereum's execution layer for education purposes.

All the work I did during my apprenticeship is available at norswap.com/cdap

R&D Compiler Engineer

2019 - Current

Oracle Labs, Remote

I am working on the GraalVM project, and in particular the implementation of TruffleRuby.

My work has contributed to improve TruffleRuby's peak performance (it is the fastest Ruby implementation on a wide range of benchmarks) and reduce its warmup time. I have also collaborated closely with our customers at Shopify.

Much of my work at Oracle is publicly visible at github.com/oracle/truffleruby/commits?author=norswap

Invited Professor

2021 - Current

Université Catholique de Louvain, Belgium

I am teaching the "*Languages & Translators*" compiler course to a class of about 100 computer science & master students. Students had to implement their own programming language for the course's project.

The class lectures & materials are freely available at norswap.com/compilers

PhD in Computer Science

2014 - 2019

Université Catholique de Louvain, Belgium

My thesis, *"Principled Stateful Parsing"* explores how adding custom code to parser specifications enables overcoming many practical challenges in the field, and how to mitigate the downsides.

Teaching assistant in the cloud computing, agile programming, and programming paradigms classes.

iOS Developer

2013 - 2014

Famest, Louvain-La-Neuve, Belgium

Famest was a fashion-centric social network that let users showcase their outfits and connect with brands. I rewrote the hastily-written Famest iPhone app (which would routinely crash after any quick succession of user inputs) in order to make it reliable and maintainable.

Bachelor & Master in Computer Science

2008 - 2013

Université Catholique de Louvain, Belgium

Grade: Magna Cum Laude

Double major in networking/security and software engineering.

Teaching assistant in the functional programming and computer systems classes.

Technologies

If you absolutely need to see a keyword in this section, we might not be a good fit. Having at this point implemented multiple languages and frameworks, I like to think I'm able to learn anything that is required in a reasonable amount of time.

That being said, I have experience in Java, C, C++, Objective-C, Kotlin, Ruby, Javascript, Python, Prolog, Lua, Bash, SQL, Git, Make, CMake, Maven, Gradle, Solidity, and more.

Selected Publications

Principled Procedural Parsing

Nicolas Laurent

PhD Thesis (2019); Louvain-La-Neuve, Belgium

Taming Context-Sensitive Languages with Principled Stateful Parsing

Nicolas Laurent and Kim Mens

ACM SIGPLAN Conference on Software Language Engineering (SLE) 2016; Amsterdam, The Netherlands

Parsing Expression Grammars Made Practical

Nicolas Laurent and Kim Mens

ACM SIGPLAN Conference on Software Language Engineering (SLE) 2015; Pittsburg, USA

SDLoad: An Extensible Framework for SDN Workload Generation.

Nicolas Laurent, Stefano Vissichio and Marco Canini

ACM SIGCOMM Workshop on Hot Topics in Software Defined Networking (HotSDN) 2014; Chicago, USA

A PEG-Based Macro System for Java

Nicolas Laurent

Master Thesis (2013); Louvain-La-Neuve, Belgium

A full list of publications, with download links, is available at norswap.com/publications

I also blog at norswap.com/sitemap on programming, finance, exercise, and pop culture.

Spoken Languages

French Native Speaker

English Advanced Professional Proficiency (ILR-4+)

Dutch Limited Working Proficiency (ILR-2)