Arnau Abella

Software Engineer

MSc in Computer Science

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About me

I enjoy working on compilers, building tools, parallel and concurrent applications, distributed systems, among other things.

I am obsessed with correctness, maintainability and reusability in software.

I periodically write about programming languages and functional programming on my blog.

Education

2020-2022 Master's Degree (GPA: 3.6/4.0) — Universitat Politècnica de Catalunya
Majoring in Computer Science.
My master's thesis was *Distributed Complex Event Processing*.

2013-2017 Bachelor's Degree (GPA: 3.2/4.0) — Universitat Politècnica de Catalunya
Majoring in Computer Science

Employment

2022-now Backend Developer — NDA
Distributed high-performance systems in the area of blockchain and cryptocurrencies in Rust.

2019-2022 Backend Developer — Coinweb
Part of the team that created the main product of the company, a cross-chain DLT. I mainly worked on the creation of the Coinweb node written in Haskell, and later, rewritten in Rust.

2017-2019 Full-stack Developer — Agilogy
Worked as a consultant in several companies such as Mango and Stuart. I started working as a frontend developer working on Typescript, and React.js and slowly transitioned to writing backends in Scala. I worked on interesting projects such as Coeli, a knowledge management system and catalogue for a museum, a real-time routing algorithm for Stuart, among others.

2016-2017 Mobile App Developer — Blitworks
I developed a sophisticated remote controller as an Android and iOS app for an industrial cold room. We wrote the native app using Java and Swift, respectively. This project was part of my bachelor's degree thesis.

Projects

I often work on OSS on my spare time and authored several open-source projects including:

- CPP-lang: an educational C-alike programming language that compiles to Jasmin (JVM assembler) written in Haskell.
- rbst: an efficient implementation of Randomized Binary Search Trees library written in Haskell.
- DCORE: an efficient Distributed COmplex Event Engine.
- floorplanning: an implementation of *Floorplan Design of VLSI Circuits* in Haskell.
- bwp: the Box Wrapping Problem (BWP) solved using constraint programming, linear programming, and SAT.
- otter-chaos-server: a back-end server for the twitch game *Otter Chaos Repair* written in Haskell and deployed in NixOS.

Publications

2022 Distributed Complex Event Recognition
2017 Remote App Controller for an Industrial Cold Room

Talks

2019 Parallelism and Concurrency in Haskell
2018 Lenses in Scala
2018 Generic Programming in Scala