

Skills

Fields of experience	Infrastructure as code - Observability - Functional programming - Formal verification
Tools and languages	NixOS - Terraform - Nomad - Kubernetes - Prometheus - Alertmanager - Grafana - Nix - Go - Rust - Python
Communication	Italian (native) - English (advanced) - Spanish (advanced) - German (medium) - French (basic)

Experience

Symbolic Capital Partners — *Software Engineer (Freelance)* Jul. 2022 - Jul. 2024

- Refactored the company's Python-based observability infrastructure to increase reliability and performance, while reducing costs. Gathered requirements from different stakeholders, implementing a solution that worked across legacy and containerized infrastructure, and architecting a secure, modular and performant monitoring solution.
- Identified and fixed problematic Prometheus metrics
- Packaged proprietary and open-source tools with Nix, and provided assistance to other developers
- Created internal Nix packaging abstraction libraries
- Implemented a Nix-based CI workflow, using an S3-compatible binary cache, which improved developer productivity and software reliability
- Implemented PR security checks that integrated with GitHub workflow and prevented rogue commits from being deployed to production

Centrifuge — *Infrastructure Engineer (Freelance)* 07/2021 - 07/2022

- Designed and implemented a declarative Kubernetes monitoring infrastructure using Jsonnet, allowing for fully reproducible, declarative, modular deployments of Grafana with dashboards, Prometheus with rules, alertmanager with alerts.
- Converted the manually-created GCP cloud infrastructure to use Terraform
- Packaged several components with Nix.
- Served as the company's point person for Nix, gave internal talks about it, and liaised with the wider Nix community

MakerDAO — *Smart Contract Engineer* 2019 - 2020

- Worked on smart contracts for Multi-Collateral DAI, one of the leading stablecoins in the Ethereum ecosystem
- Worked on the company's Nix infrastructure: packaging, development of internal libraries, support for other team members

DappHub — *Formal Verification Engineer* 2018 - 2020

- Formal verification of smart contracts for UniSwap, the leading decentralized exchange, using the K framework
- Developed and maintained the dapptools suite of free-software tools for smart contract development, written in Bash and packaged with Nix

Kinvolk — *Software Engineer* 09/2016 - 08/2018

- Implemented Kubernetes operators for clients, including Chef and Giant Swarm
- Added eBPF support to the WeaveScope monitoring tool

Meltwater — *Senior Software Engineer (Freelance)* 02/2016 - 07/2016

- Moved an application to Docker, running on top of a Mesos cluster in Marathon
- Improved the resilience of a distributed transaction system using a microservices-based architecture
- Implemented frontend features using Redux, React and ES6

Viacom — *Senior Backend Engineer (Freelance)* 01/2015 - 06/2015

- Moved our infrastructure to Ansible, increasing its repeatability, documentation and maintainability
- Led the effort for full-stack testing of the codebase: I analyzed the more vulnerable parts of the stack, suggested ways in which they could be improved and tested; I introduced several tools to the teams' toolbox: PhantomCSS for Visual Regression Testing, Capybara for Integration Testing, Jasmine and Karma for quick JS unit testing across browsers.
- I held a workshop on BDD (Behaviour Driven Development), and mentored other team members on best practices.
- I mentored team members on design patterns and best practices such as: SOLID, Presenters, Decorators, HATEOAS
- Maintenance of internal APIs and backend systems

SoundCloud — *API team intern* 2014

- Worked on Ruby on Rails REST API

Personal projects

- I'm enthusiastically involved with the NixOS project. I am a member of the [RFC Steering Committee](#); a former member of the Documentation Team; a [nixpkgs committer](#) and [maintainer](#) as well as a participant in numerous online and in-person (NixCon) conversations.
- I am currently developing [nixpkgs-update-notifier](#), a bot that allows users to subscribe, via Matrix, to build failure notifications of the [nixpkgs-update bot](#). The idea is to eventually upstream this into the bot itself, and one day add this functionality to the official CI of the NixOS project (Hydra) as well.
- [try_elixir](#), an online Elixir REPL.

- Organized privacy workshops for activists, journalists.

Education

Master in Political Ecology, Degrowth and Environmental Justice — Universitat Autònoma de Barcelona	Sep. 2023 - Mar. 2024
BSc in Computer Science — Università di Bologna	2005-2010