Formal verification of OCaml programs

Company

At foobar.land (https://foobar.land/) we intend to apply formal verification to everyday-life programs. In particular we aim to verify the Tezos (https://tezos.com/) crypto-currency which is written in OCaml (https://ocaml.org/). For that we use the compiler coq-of-ocaml (https://github.com/clarus/coq-of-ocaml) which translates parts of the code of Tezos to Coq (https://coq.inria.fr/). Then we write proofs on the generated code in the project coq-tezos-of-ocaml (https://nomadic-labs.gitlab.io/coq-tezos-of-ocaml/).

Overview of the job

The aim of this job is to write formal proofs on the translation of Tezos components in Coq. This requires to interact with the OCaml developers for the specification work, and in case modifications of the source code are needed. This may also require to setup some libraries of lemmas, for frequently used primitives such as the standard OCaml data structures.

Qualifications

- knowledgeable in OCaml or Haskell
- optionally knowledgeable in Coq (training possible)

Contact

If you are interested, please contact us at contact@foobar.land (mailto:contact@foobar.land). We provide positions in Paris or remote.