

Mark Karpov

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The resume is also available online: <https://markkarpov.com/resume.html>

Summary

Software engineer specializing in functional programming using strong static typing, in Haskell in particular.

Tech work experience

- **May 4, 2016–May 20, 2017** Tier 2 Haskell developer at Stack Builders (remote). The job involved working for several clients mostly from the US. Web-applications built with Yesod, Snap, Servant (including a micro-service based system with Servant on backend). Agile. Another part of the job was writing tutorials and blog posts to increase visibility of the company.
- **January 25, 2018–present** Software engineer at Tweag I/O (remote).

Haskell

- Concepts (not mentioning basic things like rank-N types, existentials, phantom types etc.): EDSL using combinators, GADTs, type-level programming, generics, TH, high-performance Haskell, parallel and concurrent Haskell, FFI, lens (van Laarhoven/profunctor).
- Libraries (not mentioning vital common libs like monad-control and base): lens, aeson, conduit, postgresql-simple, persistent, esqueleto, dbmigrations, parsec, megaparsec, attoparsec, yesod, snap, servant, http-client, http-conduit, wreq, req, cryptonite, warp, websockets, socket, network, HUnit, hspec, QuickCheck, test-framework, tasty, hedgehog, webdriver, optparse-applicative, path, path-io, stache, vector, containers, unordered-containers, binary, ce-real, store, distributed-process, reflection, constraints, kan-extensions, etc. I have experience with most of the libraries in active use in the Haskell ecosystem.

Technologies

- Databases: PostgreSQL, MySQL.
- AWS.
- Linux server.
- Strong knowledge of Git.
- CI: Travis CI, Circle CI.
- Dependent types, theorem provers: Coq.
- Bash/Python/Haskell scripting.
- Build systems: make, shake, Bazel.
- Server automation: Ansible.
- Front-end: HTML (5), CSS (Bootstrap), JavaScript (jQuery, AJAX, web-sockets).
- Other languages I know: C, C++, Python, Common Lisp, Emacs Lisp.

Open source projects

- Megaparsec—Industrial-strength monadic parser combinator library.
<https://github.com/mrkkp/megaparsec>
- Req—Easy-to-use, type-safe, expandable, high-level HTTP library.
<https://github.com/mrkkp/req>
- Zip—Efficient library for manipulating zip archives.
<https://github.com/mrkkp/zip>
- MMark—Strict markdown processor for writers.
<https://github.com/mmark-md/mmark>

The full list can be found at <https://markkarpov.com/oss.html>.

Writing

- I've authored a number of tutorials as part of my job and on my own, see e.g. "GHC optimization and fusion", the full list is available at <https://markkarpov.com/learn-haskell.html>.
- Blog posts are available at <https://markkarpov.com/posts.html>, see e.g. "Free monad considered harmful" from the recent ones.
- I've authored two chapters for the upcoming book "Intermediate Haskell": Exceptions and Megaparsec. Unfortunately the content is not publicly available yet (only available to reviewers).

Education

- 2009–2014—Polzunov Altai State Technical University. Engineer degree in informational technology and measuring engineering.

November 19, 2018