Alex Shaindlin

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Overview

I'm looking for full-time work in Finland starting in mid-2023. I'd love to join a team that shares my appreciation for strong type systems and elegant abstractions!

Languages (programming)

Haskell
C
Python

Tools

Experience with Ubuntu, Arch, and Gentoo distributions, as well as Windows Subsystem for Linux

GitLab (including CI/CD and Pages)

`git`, `make`, `cmake`, `stack`

`bash`, `zsh`

`vim` (with `coc.nvim` and various language servers)

Languages (human)

English (native)
Finnish (intermediate)
Lojban (basic)

Interests

Functional programming

Programming language design, theory, and implementation

Terminal user interfaces and keyboard-first design

Education

M.Sc. in Computer Science

Minor subject: Mathematics
Graduation: 2023 (expected)
Tampere University (Tampere, FI)

- ↳ Thesis project: generation and benchmarking of recursive algorithms for finite field multiplication (original work in Python, with recent Haskell rewrite)

B.Sc. in Computer Science

Minor subject: Mathematics
Graduation: 2016
Drexel University (Philadelphia, PA, USA)

- ↳ Senior project: a natural deduction proof checker in Haskell with verified extensions in Coq
- ↳ Co-founded the Drexel University Linux User Group

Experience

Research Assistant (Cryptography)

January 2019 — August 2020
Tampere University

- ↳ Wrote a Python library for generating families of recursive algorithms for finite field multiplication
- ↳ Automated generation of resulting C code, leveraging an existing bitsliced finite field arithmetic library
- ↳ Benchmarked generated code in preparation for use in the elliptic curve layer of an OpenSSL engine

Research Assistant (Medical Physics)

March 2014 — September 2014
Penn Medicine (University of Pennsylvania Health System)

- ↳ Wrote a full-coverage unit test suite for a proton therapy treatment planning system in MATLAB
- ↳ Coauthored detailed technical documentation
- ↳ Implemented bug fixes and enhancements, and cleaned up and refactored legacy code

Publications

Batch Binary Weierstrass. 2019. With B. B. Brumley, S. ul Hassan, N. Tuveri, & K. Vuojärvi, in Progress in Cryptology – LATINCRYPT 2019 (Springer International Publishing).

FoCa: a modular treatment planning system for proton radiotherapy with research and educational purposes. 2014. With D. Sánchez-Parcerisa, M. Kondrla, & A. Carabe, in Physics in Medicine and Biology (IOP Publishing).