

# Alexander V. Nikolaev

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## Summary

Experienced software engineer, with 20-years experience in software development, 17-years experience in system administration and have strong problem solving skills, initiative, willing to accept responsibility, strong team player, and strong communication skills.

## Objective

Looking for permanent or contract position (remote, C2C) of software engineer in project leveraging Haskell, Rust and NixOS, where I can use my strongest skills, improving products quality.

## Relevant skills

- Hardware/software system integration.
- Linux – deep knowledge of system management in unix systems.
  - Proficient knowledge of Nix package manager and NixOS Linux distribution, contributing to nixpkgs, develop custom solution based on NixOS.
  - Familiar with other major Linux distributions
  - Knowledge of DevOps (familiar with Salt and Ansible, Terraform, basic knowlege of others systems).
  - Embedded linux (Yocto/OE, build automation for xilinx based project).
- Haskell (3 year of commercial experience)
  - Development of command-line tools, parsers, serializers.
  - Modern Haskell-based web stacks (Servant, Yesod, WAI).
  - Interaction with RDBMS (beam, opaleye).
  - Knowledge of Stack, Cabal, haskell.nix, and all other related tooling.
- Nix/NixOS (6 years of experience)
  - Proficient packaging various open-source software, knowledge how to deal with proprietary stuff.
  - Maintaining of private tree of packaged custom software.
  - CI and CD toolchains based on Nix
  - Familiar with various language-specific packages (i.e. Go, Python, Ruby, Rust, Haskell)

- Python (15 years of experience):
  - WSGI stack.
  - Web frameworks (Pyramid, Flask, Tornado)
  - Twisted, asyncio, gevent (asynchronous servers, clients and process dispatchers)
  - SQLAlchemy (custom types, extensions)
- Other programming languages and technologies
  - Basic knowledge of Ocaml, Rust, PureScript, Go.
  - Various MQ brokers (RabbitMQ, Kafka, Amazon SQS)
  - Lua (bindings for C/C++ libraries, and contribution to several open source projects).
  - C++ (4 year of experience, using of STL and Boost libraries)
  - shell scripting, development related to system management.

Can read/understand code in most of modern imperative and functional languages.

- Knowledge of AWS cloud services, experience with Dynamo DB and SQS. (Also with EC2 as devops)
- Proficiency with docker, and related tools.
- Databases (basic knowledge of both SQL and NoSQL including Redis and Riak)
- Network protocols: HTTP (including websockets), SMTP, HTTP, developing custom protocols based on HTTP (REST/XML-RPC/JSON-RPC). Knowledge of peer-2-peer technologies.

## Employment history

### Sep 2020- now MonadFix (Software Engineer, C2C Contract)

- Various Haskell development (develop components of Nau – purescript-to-haskell transpiler)
- Developed custom GHC plugins
- Contribute fixes and improvements into large-records and record-dot-preprocessor plugins
- Supported Nix-based development environment

### 2019-2022 Macnica Americas/LogicEditor (Software Engineer, C2C Contract)

- Developed Yocto Linux packages for custom software
- Developed service for embedded linux, to arbitrating access to hardware from CLI tools and REST API components. (c++)

- Various other release engineering related automation (dockerization of build process, QA tools)
- Maintaining Nix-based development environments

### **2019 (Feb-June) CentralApp S.E. (Software Engineer, C2C Contract)**

- Developed parts of core REST services (haskell, servant, opaleye)
- Optimized build of containers, integrate caching intermediate build products.
- Formalized and documented database migrations procedures.

### **2017-2019 LogicEditor (Software Engineer, C2C Contract)**

- Developed terminal server, leveraging legacy applications as web based SaaS (including python software to control servers via REST and/or websockets)

### **2017-2018 Serokell (internship)**

- Worked on both customer-side code, and code for inner infrastructure. (Junior/mid-level haskell, servant).

### **2015-2016 Asteris, LLC (Software Engineer, C2C contract)**

- Developed various components of Cisco's Mantl (<https://github.com/mantl/mantl>)
- Developed storage related (LVM/FS) components of <http://converge.aster.is>
- Performed pre-release testing of Mantl for AWS and OpenStack platforms.

### **2013-2015 SendGrid, Inc: (Software Engineer, C2C contract)**

- Developed agent software for CleverDB project (python). Also supported packages of `cleverdb-agent` for major linux distributions.
- Various other in-house tools and libraries (golang, python, erlang)

### **2011-2012 LogicEditor (Software Engineer, C2C contract)**

- Developed various enhancement for Lua infrastructure, and binding for Lua to third party libraries (most of this activity open sourced, and visible via my github profile)

### **2010-2011 IT Infrastructure (Embedded Software Engineer, C2C contract)**

- Was hired to work fulltime on OpenInkpot project (worked on system components and applications)
- developed various plugins for CoolReader application on LBook e-ink readers

## **2008-2023 Victoria Nova, UAB (Software Engineer, CTO, owner)**

- Various web development (python, django, pyramid, tornado) for customers, including realtime web applications.

## **2007-2008 DIP Studija (Software Engineer, C2C contract)**

- Developed prototype of custom video hosting for in-house usage (storage and server parts) (python, twisted)
- Developed various custom web crawlers.

## **2007 ArcusNovus (Software Engineer, C2C contract)**

- Development of driver for USB adapter of sattelite receiver (both userspace and linux kernel)

## **2004-2007 Jet Infosystems (QA Software Engineer)**

- Developed system for automatically regression testing of complex software system.
- Administrated farm of servers for QA (Solaris and Linux)

## **2002-2004 AltLinux (Software Developer)**

- Prototyping automated build and test environment which led to 3 times shortening build/test/improve cycle.
- Developed several components for configuration management system for fire-wall appliance (C++)

## **2000-2002 TransSoftMedia (Software Developer)**

- System integration for videoconferences and IP-phone appliances pre-production prototypes (C++,perl).

## **Spoken languages**

- English (fluent)
- Lithuanian (basic proficiency)
- Russian (native)

## **Professional interests**

- NixOS linux distribution
- Functional programming languages
- Compilers and code generations

## Notes

- Have EU permanent residence status/work permit, can work as staff member (remote) or as independent contractor (C2C contract).
- As a C2C contractor I need no visa and no explicit work permit to work remotely in US/UK/other EU countries