

# Ksenia Portu

Software engineer,  
Mathematician, Haskell/Nix  
admirer

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Up-to-date version of CV is available at  
<https://ksenia-portu.github.io/cv-dummy>

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Mathematics	★★★★	Haskell	★★★★	Functional programming	★★★★	Teaching	★★★★	NixOS	★★★	Linux	★★★★
Blockchain	★★★	Pi calculus	★★★	Petri nets	★★★	Linear Logic	★★★	Session types	★★★	Git	★★★★
Cryptography	★★★	Devops	★★★	Kubernetes	★★★	Research and Software Development	★★★	Category theory	★★★	Dependent types	★★★
Recursion-schemes	★★★	Linear algebra	★★★	Statistics	★★★	Machine learning	★★★	SQL	★★★★	Python	★★★★

Software engineer passionate about Mathematics

## Professional Experience

Oct 2021 - Aug 2022 · 11 mos

### Haskell Software Engineer payment system

Haskell PostgreSQL docker docker-compose nix knative

Mar 2021 - Aug 2021 · 6 mos

### Haskell Software Engineer recruitment web platform

Haskell PostgreSQL docker docker-compose

Apr 2019 - Feb 2020 · 10 mos

### Haskell Software Engineer develop DSL

Haskell Nix package manager compiler lambda calculus Parsing Type inference Bidirectional typechecker Evaluation

Oct 2017 - Jan 2019 · 1 yr 4 mos

### Blockchain Haskell developer

# new generation blockchain

Haskell

cryptography

blockchain consensus algorithms

p2p network

routing

smart-contracts

RocksDB

rancher

docker

## # Description

### **\*\*About the project:\*\***

I have worked as Blockchain Haskell developer on new blockchain generation project. The framework part of the project is open-sourced <https://github.com/Enecuum/Node> and it has decent documentation and explanations about architecture and possibilities: [Building network actors with Enecuum Node Framework](<https://gist.github.com/graninas/9beb8df5d88dda5fa21c47ce9bcb0>) [Why Haskell?](<https://enqblockchain.medium.com/why-haskell-eacb087f3adb>) [Enecuum. Framework possibilities](<https://enqblockchain.medium.com/enecuum-framework-possibilities-d4fa49c3ea40>) [Enecuum.Framework Possibilities, Part 2](<https://enqblockchain.medium.com/enecuum-framework-possibilities-part-2-7c>)

### **\*\*About used stack:\*\***

#### **\*\*haskell:\*\***

Free monads (eDSLs)  
STM (Software Transactional Memory)  
Lenses  
Key Value database – RocksDB

#### **\*\*common:\*\***

- DevOps: rancher, docker
- Metrics: Grafana+Graphite+StatsD
- Project tracking: Redmine
- Knowledge database: Confluence

### **\*\*About tasks:\*\***

Research and development in such fields as

- blockchain related:
  - blockchain consensus algorithms (PoW, PoS, PoA)
  - p2p network, routing -- tests (integrational, functional)
  - smart-contracts, petri-nets, pi-calculus
- common application dev related:
  - config management
  - cli
  - logging
  - Packages, dependency management via stack.
  - parallel computations and processes

## Education

Ural Federal University / Applied Mathematics, 2007 - 2012, Master degree

## Languages

English, Russian

## Additional Experience

### University Lecturer

### Branch of Ural Federal University

Sep 2020 - Jun 2021 - full university year(two semesters)

teaching

I taught such disciplines as

- Information System's design

- High-level programming languages (Haskell)
- Databases
- Semantic networks

I curated numerous students' programming projects.