#### Ksenia Portu

### Software engineer, Mathematician, Haskell/Nix admirer

Last update: December 23, 2022

Up-to-date version of CV is available at

https://ksenia-portu.github.io/cv-haskell

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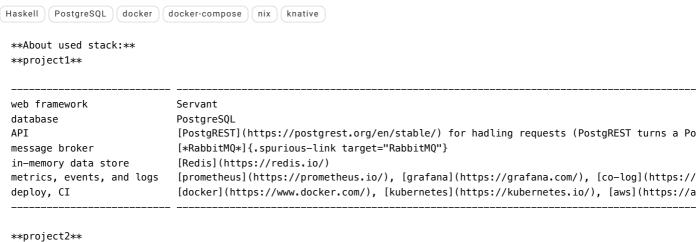
Mathematics	••••	Haskell	••••	Functional programming	••••	Teaching	••••	NixOS	•••	Linux	••••
Blockchain ••	• • • •	Pi	•••	Petri	•••	Linear	••••	Session	•••	Git	••••
		calculus		nets		Logic		types			
Cryptography ••••		Devops	•••	Kubernetes	••••	Research		Category theory	•••	Dependent types	••••
	• •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

Software engineer passionate about Mathematics

#### **Professional Experience**

Oct 2021 - Aug 2022 · 11 mos

### Haskell Software Engineer payment system



web framework Servant database PostgreSQL message broker Kafka

Knative (serverless) , Kubernetes, Docker, Nix devops

\*\*About tasks:\*\* Backend development, Architecture, Research (Event-Driven-Design, Serverless)

# Haskell Software Engineer recruitement web platform

```
Haskell PostgreSQL docker docker-compose

**About used stack:**
 **haskell:** Yesod PostgreSQL

**About tasks:** Backend development
```

Apr 2019 - Feb 2020 ·10 mos

## Haskell Software Engineer develop DSL

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

**About used stack:**

**About tasks:**

Research and development
```

Oct 2017 - Jan 2019 · 1 yr 4 mos

## Blockchain Haskell developer new generation blockchain

Metrics: Grafana+Graphite+StatsD Project tracking: Redmine Knowledge database: Confluence

```
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)
 Key Value database - RocksDB
 **common:**
     DevOps: rancher, docker
```

\*\*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.