

# LAZARYEV YURIY

## Senior Software Engineer

Software engineer with 25+ years of experience. Started in web development, went deep into backend and distributed systems. My interest in DSLs led me to compilers — I tried writing my own backend for a PureScript-to-Lua compiler, enjoyed it, and decided to do it full-time. That is how I ended up working on the smart-contract language compiler for Cardano.

I bring a design-before-build discipline that produces software correct and secure before it is fast — useful in domains where bugs have financial or safety consequences.

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## EXPERIENCE

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### **Intersect MBO** (Jan 2024 – Present)

Senior Software Engineer — Plutus Core Team

- Authored and implemented CIP-0156 (multiIndexArray builtin): from initial draft through community ratification to full compiler implementation.
- Designed and built the UPLC-CAPE benchmarking framework for measuring UPLC program performance across compiler versions. Presented at the UPLC 2025 workshop. Security review work on high-stakes blockchain compiler output.
- Cardano Node release manager. Implemented CIP-57 (machine-readable Plutus contract blueprints) and a blockchain indexer feeding a Grafana dashboard for compiler optimization decisions.

### **Input-Output Global → Cardano Foundation** (Feb 2022 – Dec 2023)

Senior Software Engineer — Cardano Wallet team

- Designed and shipped Light Backend Mode for the full-node wallet — letting users transact without a full chain sync by routing chain queries through an external indexing API. Owned end-to-end; later retired when the team dropped the external-API dependency.
- Rewrote the wallet's transaction-construction pipeline around a unified balancing primitive, replacing a legacy path that had diverged across endpoints — core logic exercised by every transaction the wallet emits.
- Remastered the end-to-end test infrastructure: turned a flaky shared suite into a reliable per-PR check, with the suite owning its own preprod node/wallet lifecycle.

### **Bellroy** (Aug 2019 – Jan 2022)

Lead Software Engineer

- Founded the Haskell engineering practice: established stack, tooling, and patterns. Grew serverless estate from 0 to 6 AWS Lambda + DynamoDB services — all still running in production without incidents.
- Built a DSL compiler framework yielding 4 production compilers (shipping logistics, promotion rules). Led a 5-day FP training; 3 colleagues transitioned to full-time Haskell development.

### **CollegeVine** (Nov 2018 – Jul 2019)

Senior Software Engineer, Team Lead

Built backend and frontend features (Haskell, PureScript, React). Designed a UI test automation framework that significantly reduced manual QA time.

## **DSTOQ** (Apr – Nov 2018)

### Lead Software Engineer

- Designed the core architecture and security model for a system where financial correctness is a hard requirement, not a quality goal. Developed mission-critical components in Haskell with extensive property-based tests (QuickCheck, Hedgehog).
- Wrote and open-sourced the Haskell Stellar SDK (<https://github.com/Unisay/stellar-haskell-sdk>) — the first community SDK for Stellar in Haskell, enabling integration with the XLM payment network.
- Conducted technical interviews and coordinated external contractors.

## **Zalando** (Jun 2015 – Mar 2018)

### Senior Software Engineer

- Single-handedly developed both the frontend and backend for the integration of miadidas.com into the Zalando shop, working directly with Adidas colleagues across two codebases simultaneously.
- Actively involved in technical architecture decisions and interviewing as the team grew from a small FP pilot to a larger Haskell/Scala group.

## **Groupon** (Feb 2013 – Jun 2015)

### Senior Software Engineer

Groupon was the world's largest local-deal aggregator. Developed software applying machine learning to big data — both batch processing (Hadoop) and real-time search relevance. Implemented a lambda architecture for big data. Key achievement: a reactive distributed data indexer for real-time search.

*Earlier positions are omitted for brevity; the complete work history is available at [cv.functional.work](http://cv.functional.work)*

## **SKILLS**

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### **Functional Programming & Formal Methods**

Haskell, PureScript, Elm, Model Checking (Quint, TLA+, Agda)

### **Compiler & PL Engineering**

Plutus Core, Plinth, Untyped Plutus Core (UPLC), DSL design, Benchmarking, GHC Core, GHC Plugins

### **Blockchain & Smart Contracts**

Cardano, Plutus, Plinth, Stellar, CIP authorship, Security

### **Cloud & Infrastructure**

AWS Lambda, EC2 / S3 / RDS, DynamoDB, EKS, Serverless, Docker, Nix, NixOS, Terraform, CI/CD (GitHub Actions)

### **Data & Search**

PostgreSQL, Elasticsearch, Kafka, Redis, RabbitMQ, Hadoop, GraphQL

### **JVM Ecosystem**

J2EE, Spring, Dropwizard, Akka, Scala, Clojure, Groovy, Scalaz, Typelevel Cats

## **EDUCATION**

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### **University "Ukraine"** (2001–2006)

Bachelor of Science, Computer Systems and Networks

### **Radio-Technical College** (1997–2001)

Junior Specialist, Computers Production and Servicing