

# Artashes Yamukyan

## Senior Senior Software Engineer – Backend & Blockchain Protocol

### SUMMARY

- Backend & Protocol Engineering: 7+ years building large-scale, high-performance consensus-layer systems in Go and C++.
- Scalable Data Architecture: Architected high-load EVM indexers, delivering sub-second analytics over 100M+ rows with real-time streaming via REST, gRPC, and SSE.
- Cryptography: Developed ZK circuits (gnark) and secure distributed signing nodes (MPC) using advanced primitives like BLS and ECDSA.
- Network Optimization: Optimized consensus protocols (CasperFFG, LMD-GHOST) and libp2p networking, scaling production networks with up to \$2B in market cap.
- Systems Foundation: B.Sc. in Informatics & Applied Mathematics with deep expertise in LLVM and compiler-level optimization.

### TECHNICAL SKILLS

|                                                     |                                                                                                          |
|-----------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| <b>Main Technical Skills</b>                        | Go (5 yr.), C/C++/C# (5 yr.), Linea (5 yr.), Consensus Mechanism (5 yr.)                                 |
| <b>Programming Languages</b>                        | Go (5 yr.)                                                                                               |
| <b>C++ Frameworks</b>                               | Boost C++ (1 yr.)                                                                                        |
| <b>C++ Libraries and Tools</b>                      | C/C++/C# (5 yr.)                                                                                         |
| <b>Go Libraries and Tools</b>                       | Libp2p (2 yr.)                                                                                           |
| <b>JavaScript Libraries and Tools</b>               | React Hooks (2 yr.)                                                                                      |
| <b>Java Libraries and Tools</b>                     | ZK (1 yr.)                                                                                               |
| <b>Databases &amp; Management Systems / ORM</b>     | Clickhouse (2 yr.), Cosmos DB (1 yr.), MongoDB (1 yr.), Neo4j (2 yr.), PostgreSQL (2 yr.), Redis (2 yr.) |
| <b>Azure Cloud Services</b>                         | Cosmos DB (1 yr.)                                                                                        |
| <b>Deployment, CI/CD &amp; Administration</b>       | CI/CD                                                                                                    |
| <b>Virtualization, Containers and Orchestration</b> | Docker                                                                                                   |
| <b>Blockchain and Decentralized Software</b>        | EVM, Geth (2 yr.), Linea (5 yr.), NEAR (1 yr.)                                                           |
| <b>Operating Systems</b>                            | Linux                                                                                                    |

|                                              |                                                                                                                                                           |
|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Methodologies, Paradigms and Patterns</b> | microservices (2 yr.), Solution Architecture Design (2 yr.), TDD                                                                                          |
| <b>File Systems, Storage</b>                 | Protobuf (2 yr.)                                                                                                                                          |
| <b>SDK / API and Integrations</b>            | RESTful API (3 yr.)                                                                                                                                       |
| <b>Other Technical Skills</b>                | BLS (2 yr.), Concurrency (3 yr.), ECDH (2 yr.), ECDSA (2 yr.), GossipSub (2 yr.), LLVM (2 yr.), Prysm (2 yr.), ROS2 (1 yr.), SSE (2 yr.), TSS/MPC (1 yr.) |

## WORK EXPERIENCE

### Senior Software Engineer - Fasttoken (Fastex ecosystem's blockchain - Bahamut chain and ftNFT marketplace)

**Duration:** Jan 2024 – Mar 2026

**Summary:**

- Development and maintenance of the Fastex ecosystem's blockchain, powering the Bahamut chain and ftNFT marketplace
- The project involves core protocol engineering and building indexer data microservices to support a high-performance blockchain network with a market cap peak of \$2B

**Responsibilities:**

- Adapted Ethereum's CasperFFG and LMD-GHOST consensus mechanisms into a custom Bahamut PoSA consensus layer with protocol-level modifications.
- Validated consensus protocol pre-release on a production network.
- Adapted cryptography and P2P networking components including BLS, ECDSA/ECDH, libp2p, and GossipSub.
- Diagnosed and fixed consensus-client bugs improving network stability and node correctness.
- Built core cryptographic primitives including ZK circuits for decentralized identity and TSS-based MPC nodes for secure distributed signing.
- Architected and built a high-throughput EVM indexer and data microservices for near-real-time blockchain data ingestion and normalization.
- Scaled data layer using Clickhouse, Neo4j, PostgreSQL, and Redis to handle large volumes of indexed blockchain data.
- Developed REST and gRPC APIs, SSE for real-time updates, and EdDSA-signed webhook services for on-chain event subscriptions.

**Technologies:** Go, C++, PostgreSQL, Clickhouse, Neo4j, Redis, libp2p, GossipSub, BLS, ECDSA, ECDH, ZK circuits (gnark), TSS/MPC, Geth, Prysm

### Senior Software Engineer L1 - Flow (Multi-chain non-custodial wallet and crypto-fiat services backend)

**Duration:** Oct 2022 – Jul 2023

**Summary:** Development of backend services for a multi-chain non-custodial wallet supporting over 7 blockchain networks and integration of crypto-fiat exchange services

enabling seamless swaps across supported chains.

**Responsibilities:**

- Architected and delivered backend services for a multi-chain wallet supporting Ethereum, Polygon, BSC, and others.
- Built crypto-fiat exchange engine integrating Circle API for seamless user swaps.
- Developed transaction tracking and asset monitoring systems using Infura and local archival nodes to provide unified portfolio views.

**Technologies:** Go, MongoDB, Infura, Circle API

## **Software Engineer - IntegralLabs (Graphene (Bitshares 2.0) fork protocol implementation)**

**Duration:** Aug 2021 – Oct 2022

**Summary:** Implementation of core protocol mechanisms for a Graphene blockchain fork, focusing on consensus rules and network performance optimization using modern C++17.

**Responsibilities:**

- Implemented consensus rules and optimized network performance for the Graphene fork.
- Used compile-time reflection and template metaprogramming for type-safe serialization and RPC.
- Built high-concurrency asynchronous networking with Boost.Asio and Boost.Fibers.
- Established C++ development standards and best practices for concurrency, networking, and cryptography.
- Mentored junior engineers to improve team velocity and code quality.

**Technologies:** C++17, Boost.Asio, Boost.Fibers, Boost promise/future, template metaprogramming

## **Junior Software Engineer - ISPRAS (Binary Reverse Engineering and Compiler Optimization)**

**Duration:** Oct 2019 – Aug 2021

**Summary:** Research and development in binary reverse engineering and compiler optimization, focusing on restoring debug symbols and improving JVM performance through LLVM IR translation.

**Responsibilities:**

- Restored debug symbols in stripped release builds using Binary Code Clone tools and Control Flow Graph comparison.
- Optimized JVM performance by mapping Java Bytecode to LLVM IR and replacing call blobs with optimized LLVM-generated code.

**Technologies:** C++, Python, LLVM, LLVM IR, JVM Bytecode

## **Solo founder & engineer (Kdraigo - Algorithmic Trading & Backtesting Platform)**

**Duration:** Oct 2023 – Present

**Summary:** Architected and built a high-performance backend platform for simulating, backtesting, and deploying quantitative trading strategies with live execution and detailed telemetry.

**Responsibilities:**

- Designed and implemented the entire backend from the ground up in Go.



- Built an MCP server and a Claude Code skill to enable AI agents to scaffold, run, and iterate on trading strategies end-to-end.

**Technologies:** Go

### **Open-Source Collaborator (CyberFusion - Open-Source Robotics Initiative)**

**Duration:** Apr 2023 – Jul 2024

**Summary:** Contributed to open-source robotics platforms by designing and implementing robotic control and operation modules for accessible robots including the Ayy quadruped robot.

**Responsibilities:**

- Designed and implemented robotic control and operation modules using ROS2.
- Contributed to accessibility and functionality of open-source robotics platforms.

**Technologies:** C++, ROS2

### **Developer (Granium.io - Decentralized Storage Network MVP)**

**Duration:** Jun 2024 – Oct 2024

**Summary:** Designed and implemented core storage and retrieval mechanisms for a decentralized storage network MVP, including reservation and validation protocols and secure P2P data transfer with data redundancy.

**Responsibilities:**

- Implemented reservation and validation protocols for decentralized storage.
- Developed secure P2P transfer mechanisms using ECDH, Noise, ECDSA/EdDSA.
- Designed, documented, and formally validated the worker-pool consensus mechanism to ensure trustless and fair reward distribution.

**Technologies:** Go, Cosmos SDK, libp2p, ECDH, Noise Protocol, ECDSA, EdDSA, Python (for pseudocode modeling)

## **EDUCATION**

### **• Yerevan State University**

B.Sc., Informatics and Applied Mathematics

Sept 2015 – Jun 2021

