

Kanstantsin Zakharchanka

Senior C++ Software Developer

Networking, Algorithms, Cryptography, Asynchronous Programming

Contacts

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Summary

Confident C++ developer with a decade of professional experience. Strong algorithmic, coding, and research skills. Competence in network programming, cryptography, concurrency, software design patterns, system design, theoretical computer science, operating systems. Comfortable with Linux, bash, python, GDB/LLDB, and all the necessary tooling.

Experience

Gaijin Entertainment (Karlsruhe, Germany)

Game Networking Developer (3 years, 2021.04 – 2024.03)

Game networking, real-time state synchronization, network path discovery, DDoS protection, cheating detection and prevention. Networked gameplay logic, network traffic optimization, performance optimization, game engine support and bug fixes.

- **DDoS Mitigation:** Collaborated closely with the DevOps team to implement a DDoS protection infrastructure, significantly mitigating the impact of DDoS attacks on gameplay. Also developed a DDoS simulation tool for defense testing.
- **Anticheat Solutions:** Integrated and supported third-party anti cheat solutions, in addition to implementing in-game anti cheat measures.
- **Network Traffic Optimization:** Continuously optimized network traffic, Packet Per Second metrics, and networked game logic.
- **Gameplay and Security Enhancements:** Focused on optimizing networked game logic and investigating netcode to address security and stability issues.
- **Performance Improvements:** Addressed performance issues, especially in physics and hit detection, and introduced a dynamic tick rate system to efficiently manage server load.
- **Game Statistics and Player Experience:** Enhanced the gathering of game statistics and improved visibility into various issues.

Yandex (Moscow, Russia)

SW Development Engineer (1 year 3 months, 2020.02 – 2021.04)

Recommender systems. Text processing and information extraction systems. Search Platform development. Map-Reduce algorithms, Machine Learning automation. API development.

- Contributed to recommendation pipelines and the integration of named entity extraction.
- Worked on merging two recommendation service APIs for a unified platform.
- Optimized feature extraction from SERP and experimented with search response behavior.
- Engaged with text processing, information extraction, and Map-Reduce algorithms to automate machine learning tasks.
- Gained exposure to various technologies and methodologies due to a team transfer.

Banuba (Minsk, Belarus)

SW Development Engineer (2 years 6 months, 2017.08 – 2020.01)

P2P networks, C++17, asynchronous programming, template metaprogramming, NAT traversal, CDN, torrent-like file transfer, DHT, cryptography, serialization, fuzzing tests, Python.

- Built a P2P framework for user discovery, storage, encrypted messaging, and file delivery.
- Implemented NAT traversal, flexible bootstrapping (torrent networks, AWS Lambda, broadcast), and nearby user discovery.
- Integrated the P2P framework as a CDN with torrent-like file verification and assembly.
- Co-created a scriptable framework for distributed integration tests.
- Developed a custom serialization layer enabling automatic fuzzing tests.
- Assisted other teams with Python tasks (networking, graph processing, code generation).

SK Hynix Eastern Europe (Minsk, Belarus)

SW Development Engineer (3 years 3 months, 2014.06 – 2017.08)

Developed "hardware models" for a simulation environment using C++11 and real HW specifications. Collaborated with HW design teams in South Korea to ensure accurate model implementation. Created Python scripts to streamline coworkers' tasks, enhancing productivity. Contributed to the development and improvement of the test environment.

Languages

English C1, Russian C2, Belarusian C1, German A2 (Learning)

Education

Belarusian State University of Informatics and Radioelectronics
Master's degree, Engineering Sciences (2010 – 2017)