Aliaksei Ivanou | C++ Software Engineer

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Software Engineer with 11+ years of technical expertise in algorithm development, system optimization, and cross-platform implementation. Proven specialist in **C/C++** (**4+ years**) and **MATLAB** (**7.5 years**) development across diverse technical stacks in multicultural environments.

– Boosted C++ efficiency & reliability by 25%.

– Improved system performance by 15% via codebase optimization & legacy cleanup.

– Built a Windows autoprovisioning tool (-80% setup time) and enhanced Linphone-SDK with backup SIP for 60% faster failover and 99.95% uptime on 100K+ calls.

– Developed image processing & compression algorithms for 10+ Earth Observation (EO) satellites.

– Implemented EO image routines, boosting data quality & processing speed by 40%.

– Delivered scalable solutions for complex systems through domain expertise and business-aligned user scenarios.

– Designed implementation strategies preserving existing functionality while minimizing future refactoring needs.

Seeking a challenging C++ Software Engineer role where I can leverage my expertise in system optimization and cross-platform development to build high-performance, scalable solutions.

Polish Temporary Residence and Work Permit Holder: Permit update required on job change.

Tech Stack & Domains

● *Languages & Frameworks*: C++, C++20, C++17, C++14, C++11, C, C89, MATLAB, Qt, Qt 5.15.7, C#, .NET Framework 4.8, .NET 8, Java, Java 11, Java 8, Scala, JavaScript.

● *Databases & Storage*: PostgreSQL, MySQL, SQLite, MS Access.

● *DevOps, Cloud & Infrastructure*: Amazon Web Services (AWS), Microsoft Azure, Jenkins, GitHub, GitLab, BitBucket, Apache, SNMP, Lighttpd, Dropbear, Linux, Yocto, SSH, TCP/IP, WebSockets.

● *Development Tools & Libraries*: Git, GitHub, CMake, GCC, gdb, Valgrind, Visual Studio, Qt Creator, Linphone-SDK, FLTK GUI Library, GoogleTest, DotNetZip, SharpSnmpLib, plog logger, Jira, Asana.

● *Development Practices*: Test-Driven Development (TDD), CI/CD Pipelines, Agile, Scrum, Kanban, Waterfall, Code review, Data Analysis, Software Design Patterns, Object-Oriented Programming, Debugging.

● *Domains*: Aerospace & Satellite Systems, UAV Systems, Geoinformatics, VoIP/SIP Telephony Systems, Embedded Systems Solutions, FinTech, Energy Sector ERP Solutions, Digital Library Management Systems.

Experience

C++ Software Engineer | Innowise Group   **12/2024 - Present**

Innowise is a global software development company, specializing in Big Data, AI, RPA, IoT, AR/VR, and Blockchain.

● Spearheaded the development and enhancement of a full-cycle IP telephony solution for a leading manufacturer of network equipment, including switches, routers, PBX systems, and SIP devices.

● Designed and developed a Windows-based autoprovisioning application in C# (.NET Framework 4.8) that automates device configuration and firmware updates, reducing manual setup time by 80%.

● Modernized and extended the Linphone-SDK (C++) to implement full backup SIP-server support, engineering robust failover logic and seamless reconnection workflows to ensure high availability.

● Managed a team of 4 software engineers, responsible for their professional development and performance evaluation, while providing expert technical guidance to solve complex challenges within their respective projects.

● Actively participated in architectural discussions, offering key recommendations for language and toolchain migration to increase development velocity, reduce complexity, and improve system integration.

Tech Stack: C#, .NET Framework 4.8, C++, C++20, Qt, Qt 5.15.7, git, Qt Creator, gdb, GitLab, Asana, Yocto, Lighttpd, Dropbear, Linphone-SDK, DotNetZip, SharpSnmpLib, SNMP, Code review, SQLite.

C++ Software Engineer | EPAM Systems   **09/2021 - 08/2024**

EPAM Systems (NYSE: EPAM) is one of the global leaders in both digital engineering and IT consulting, recognized for innovation, cloud, and AI services.

● Successfully delivered multiple complex projects, improving system performance and stability by 15%. Key projects include an Energy Sector ERP System for a Fortune 500 corporation and a Digital Library Management

System for a global research provider. Demonstrated versatile programming expertise across language standards from legacy C89 to modern C++17.

● Enhanced 20% of the codebase by removing legacy components and implementing optimizations, resulting in measurable improvements: a 25% increase in performance speed, enhanced system reliability, and greater operational efficiency.

● Enhanced user experience by developing approximately 20 user-requested features, optimizing database queries, reducing user request handling speed by 15%, increasing codebase efficiency and contributing to a 10% increase in CSAT (Customer Satisfaction Score).

● Established and maintained productive partnerships with cross-functional teams. both internally and externally, to ensure seamless collaboration. Facilitated effective communication through bi-weekly demos, regular meetings with customer teams, and daily stand-ups with the internal team. Reduced integration and deployment time by 30% by optimizing processes through structured collaboration and proactive issue resolution.

Tech Stack: C, C89, C++, C++14, C++17, Java, Java 8, Java 11, Scala, JavaScript, Amazon Web Services (AWS), Microsoft Azure, Apache, Linux, gdb, SSH, git, BitBucket, Jira, Jenkins, GCC, Valgrind, CMake, Test-driven development, CI/CD pipelines, Agile, Scrum, Kanban, Code review, PostgreSQL, MySQL, TCP/IP, WebSockets.

C++ Software Engineer | Pet-project   03/2020 - 06/2021

● Developed a personal finance management system as a self-directed learning project to master comprehensive software architecture principles and modern development practices.

● Build an intuitive FLTK-based interface for transaction entry and financial analysis, integrating SQLite for efficient data management.

● Implemented robust quality assurance through GoogleTest for unit testing, plog for structured error logging, and CMake for automated build processes.

Tech Stack: C, C++, C++11, git, GitHub, FLTK GUI Library, plog logger, GoogleTest, CMake, Visual Studio, Test-driven development, SQLite.

MATLAB Software Engineer | PELENG   08/2012 - 01/2020

PELENG is a developer and manufacturer of high-tech optical and optoelectronic systems for space, industrial, and surveillance applications. The company specializes in thermal imaging, precision optics, and advanced vision systems, emphasizing innovation and collaboration with public and private sectors.

● Created and optimized image processing algorithms in MATLAB for 10+ Earth Remote Sensing satellites with optical imaging systems, improving data quality and processing efficiency by 40%, while reducing post-processing time by 60% through advanced image stitching and defect removal techniques.

● Designed resolution assessment software for flight tests, improving image analysis speed by 5x.

● Developed and implemented an image compression algorithm in MATLAB for satellites, achieving 3-4x lossy compression while preserving image integrity and reducing computational load.

● Developed software in MATLAB for image type prediction for image quantization, improving image quality by 30% and enhancing Earth observation accuracy by 20%.

● Developed image processing modules for UAVs in MATLAB, including debayering, stabilization, and sensor fusion.

Tech Stack: MATLAB, MS Access, git, GitHub, Proprietary Software, Test-driven development, Waterfall.

Education

● Higher education. Bachelor's Degree in Radiophysics. Satellite information systems and technologies : Belarusian State University, Faculty of Radiophysics and Computer Technologies
● Programming course. C++ EPAM Systems Laboratory : EPAM Systems
● Programming course. C++ EPAM Systems Mentoring Program : EPAM Systems

Languages

● **English**: Working proficiency (B2)
● **Polish**: Conversational proficiency (B1)
● **Swedish**: Elementary proficiency (A2)
● **Russian**: Native proficiency (C2)
● **Belarusian**: Native proficiency (C2)