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. Seeking to leverage my expertise in C/C++ software development:

– Boost C++ application efficiency and reliability by 25%.

– Improved C++ system performance by 15% through codebase optimization and legacy code removal.

– Developed image processing and compressions algorithms for 10+ Earth Observation satellites.

– Created image processing algorithms for Earth Observation satellites improving data quality and processing efficiency 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.

Technical Expertise:

– Image Processing, Embedded Systems, and complex data structures.

– Optimizing and restructuring legacy systems while focusing on modern technologies.

– Driving innovation and business success through evolving technology stacks.

Polish Temporary Residence and Work Permit Holder: Requires permit update upon employment change.

Tech Stack & Domains

● *Languages & Frameworks*: C++, C++17, C++14, C++11, C, C89,, MATLAB, Qt, Qt 6.

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

● *Infrastructure & Cloud*: Amazon Web Services (AWS).

● *Development Tools*: git, GitHub, BitBucket, Jira, Jenkins, GCC, gdb, CMake, Visual Studio, FLTK GUI Library, plog logger, GoogleTest, Point Cloud Library, System Tool Kit.

● *Development Practices*: Test-driven development, CI/CD pipelines, Agile, Scrum, Kanban, Waterfall, Code review, Data Analysis, Software Design Patterns, Object-Oriented Programming, Debugging.

● *Domains*: Aerospace Systems, Satellite Systems, UAV Systems, Embedded Systems Solutions, FinTech, Geoinformatics, 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.

● Established robust technical quality processes including code reviews, best practices implementation (coding standards, security, performance optimization), technical interviews for C/C++ candidates, and comprehensive documentation improvements.

● Mentored and onboarded 3 new developers through structured guidance and support, enabling them to successfully complete probation periods.

Tech Stack: C, C++, Qt, Qt 6, git, Jira, CMake, GoogleTest, Visual Studio, Test-driven development, PostgreSQL, MySQL.

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.

● Achieved 15% improvement in system performance and stability by successfully delivering multiple projects (Energy Sector ERP System, Digital Library Management System) while demonstrating versatile programming expertise across language standards ranging 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), 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, 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 (B1+)
● **Polish**: Conversational proficiency (B1)
● **Swedish**: Elementary proficiency (A2)
● **Russian**: Native proficiency (C2)
● **Belarusian**: Native proficiency (C2)