

Aliaksei Ivanou | C++ Software Engineer

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Has **12+ years** of **programming experience**, including **7.5+ years** in **commercial development** in **MATLAB**, **3.5+ years** in **commercial development** in **C/C++** and **1.5+ years** in **freelance** in **C/C++**. Specialized in high-performance systems, embedded software, aerospace, and geoinformatics.

Experience: EPAM Systems, Innowise Group, RIFTEK, PELENG.

Key projects: Oil & Gas Corporate System, Library System, 3D Scanning Software, UAV Software, Satellite Image Processing Software,

Skills

- **Languages & Frameworks:** C, C89, C++, C++11, C++17, MATLAB.
- **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 methodologies, Scrum methodology, Kanban methodology, Code review.
- **Databases & Storage:** PostgreSQL, MySQL, SQLite, Microsoft Access.
- **Core Areas:** Aerospace, Satellite Systems, UAV Systems, Embedded Systems, FinTech, Geoinformatics, Oil & Gas.

Experience

C++ Software Engineer | Innowise Group | 12.2024 - Present

Innowise is a global software development company founded in 2007, with 2000+ professionals. It has delivered 1300+ projects for 300+ clients, specializing in Big Data, AI, RPA, IoT, AR/VR, and Blockchain.

Skills: C, C++.

C++ Software Engineer | EPAM Systems | 09.2021 - 08.2024

Since 1993, EPAM Systems (NYSE: EPAM) has been a leader in digital engineering, cloud, and AI services, with 50,000+ employees and clients across six continents, recognized for innovation and IT consulting leadership.

Project: C++17-based Oil & Gas System:

- Supported a C++17-based system for the oil and gas industry, **refactoring 30%** of the codebase, fixing 20+ bugs, and improving system stability by **15%** through legacy code removal and optimization.
- Enhanced performance by optimizing database queries, reducing processing time by **20%**, improving codebase efficiency, and increasing user satisfaction by **10%**.

• **Skills:** C++17, MySQL.

Project: Legacy Library System:

- Served as **Key C Developer** on a **40+ year-old library system**, **refactoring 20%** of the codebase, **resolving 70+ bugs**, and improving system reliability by **25%** and functionality by **15%**.
- Led feature development with a **team of 2 developers**, ensuring efficient integration of C code across languages and improving feature delivery time by **20%**, while maintaining constant communication with the client's team for a **30%** reduction in integration time.
- Delivered bi-weekly sprint demos to client department heads, improving client satisfaction by **10%**, and contributed to reducing system errors by **40%** while resolving complex issues remotely using SSH and gdb.

Skills: C89, Java 11, Scala, Apache, Amazon Web Services, gdb, SSH, git, BitBucket, Jira, Jenkins, Linux, MySQL, PostgreSQL.

C++ Software Engineer | RIFTEK | 03.2020 - 05.2020

RIFTEK develops optoelectronic instruments for measuring geometrical quantities, including laser sensors, 2D/3D scanners, and machine vision systems, serving over 70 countries with representation in 45.

- Developed software for **3D model generation** using **3+ 2D laser sensors**.
- Implemented C++ applications with the **Point Cloud Library** on **Qt**.

Skills: C++11, Qt, Point Cloud Library.

C++ Software Engineer | Freelance | 01.2020 - 08.2022

Project: Exercises from Programming: Principles and Practice Using C++ (2nd Edition) by Bjarne Stroustrup

- Completed exercises from Programming: Principles and Practice Using C++ (2nd Edition) by Bjarne Stroustrup, mastering C++ fundamentals, OOP, templates, and advanced C++ features.
- Developed graphical applications with **FLTK GUI Library**, managing projects with **Git** for version control and **Visual Studio** for coding, debugging, and organization.

Skills: C, C++11, Git, GitHub, FLTK GUI Library, Visual Studio.

Project: Home Accounting App

- Created a home accounting app with an intuitive **FLTK**-based interface for transaction entry and financial analysis, integrating **SQLite** for efficient data management.
- Employed **GoogleTest** for application reliability, **plog** for error logging, and **CMake** for build automation to improve development workflow.
- Developed custom financial analysis tools, enhancing user experience and providing actionable insights into spending patterns.

Skills: C++11, Git, GitHub, FLTK GUI Library, Visual Studio, plog, SQLite, CMake, GoogleTest.

Research & Development Aerospace Engineer | PELENG | 08.2012 - 01.2020

PELENG is a Belarusian developer and manufacturer of high-tech defense, security, and industry systems, specializing in optoelectronic products like thermal sights, surveillance, space and UAV systems, with 3500+ employees, emphasizing innovation and collaboration with public and private sectors.

- Optimized image processing algorithms for **10+ Earth observation satellites**, enhancing data quality and improving processing efficiency by **40%**.
- Developed and implemented an **ADPCM compression algorithm** for satellites, achieving **3-4x lossy compression** while maintaining image integrity and reducing hardware computational load.
- Created software for satellite image stitching and defect removal, reducing post-processing time by **60%**, and improving image quality by removing dust and stitching artifacts.
- Designed and deployed resolution assessment software for flight tests, accelerating image analysis by **5x** and enhancing evaluation accuracy, while leading in-orbit flight tests and achieving **100% mission success** across multiple satellite launches.
- Developed predictive models and sensor quantization software, reducing data loss by **15%**, improving Earth observation accuracy by **20%**, and designing database systems and web interfaces to improve satellite data retrieval time by **70%**.
- Developed **digital image processing modules** for **UAV systems** in MATLAB, including **debayering, image stabilization, format conversion**, and **sensor fusion** for improved target recognition.
- Calibrated the **IMU sensor**, improving **camera center frame coordinate accuracy by 30%** for more precise georeferencing.
- Participated in **30+ UAV test flights** as a **payload operator**, ensuring system functionality and data acquisition.

Skills: MATLAB, C++11, System Tool Kit, Ruby, Ruby On Rails, PostgreSQL, Microsoft Access.

Satellite Monitoring Systems Engineer | ITSZEM | 07.2010 - 05.2012

ITSZEM specializes in land management and geoinformatics, with licenses for surveying, geodesy, cartography, and GIS, focusing on LIS, monitoring, digital maps, and navigation research.

- Installed and connected **~200 satellite monitoring terminals** across **10+ cities**, enabling real-time tracking for **20+ clients**, while leading on-site installations for light vehicles and trucks to ensure accuracy and minimize errors.
- Configured the server monitoring system, reducing integration time by **~30%** and improving system uptime to **99%**, while streamlining equipment acceptance and repair processes to cut vehicle downtime by **20-25%**.
- Coordinated with manufacturers for timely, cost-effective procurement and provided client support and training, improving satisfaction by **15%**.

Education

- Programming course. C++ EPAM Systems Laboratory : EPAM Systems, 05.2021 - 08.2021
- Programming course. C++ EPAM Systems Mentoring Program : EPAM Systems, 05.2020 - 08.2021
- Programming course. C++ Programming : IT-Academy.by, 03.2018 - 05.2018
- Higher education. Radiophysics. Satellite information systems and technologies : Belarusian State University, 09.2007 - 07.2012

Languages

•**Russian** (Native) •**Belarussian** (Native) •**English** (Upper Intermediate) •**Swedish** (Basic) •**Polish** (Intermediate)

Consent To Data Processing

Wyrażam zgodę na przetwarzanie moich danych osobowych zawartych w niniejszym CV dla celów obecnych i przyszłych procesów rekrutacyjnych zgodnie z art. 6 ust. 1 lit. a ogólnego rozporządzenia o ochronie danych osobowych z dnia 27 kwietnia 2016 r. (RODO).