

# ALIAKSEI IVANOU | C++ SOFTWARE ENGINEER

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With **12+ years of experience**, including **7.5 years of experience in optical sensor development for satellites and UAVs<sup>1</sup>**, and **3.5 years in C/C++ commercial software development** (plus **1.5 years of freelance experience**), I specialize in performance-focused projects. Proficient in **MATLAB, Java, Ruby, Scala**, and **LabVIEW**, with practical **C++** expertise honed at EPAM Systems Laboratory. Belarusian, holding a **valid Polish work permit**.

**Languages:** Russian (native), Belarussian (native), English (B1+), Swedish (A2), Polish (B1).

**Certificates:** [github.com/aliaksei-ivanou-by/Summary/tree/master/Certificates](https://github.com/aliaksei-ivanou-by/Summary/tree/master/Certificates).

**Recommendations available on LinkedIn:** [www.linkedin.com/in/aliaksei-ivanou-by/details/recommendations/](https://www.linkedin.com/in/aliaksei-ivanou-by/details/recommendations/).

## SKILLS

C, C++, Java, JavaScript, Scala, MATLAB, SQL, Ruby, LaTeX, LABView, bash, HTML, CSS.

Aerospace systems, Object-Oriented Programming, Digital Image Processing.

MySQL, PostgreSQL, Git, CMake, Visual Studio, Ruby on Rails, Point Cloud Library, SSH, ReSharper C++, gdb, Jira.

## EXPERIENCE

**Software Engineer | Innowise Group | Dec 2024 - Now | Full-time job**

*The outsourcing and outstaffing company with numerous clients worldwide.*

*Technical stack: C/C++.*

**Software Engineer | EPAM Systems Poland, Inc. | Aug 2022 - Aug 2024 | Full-time job**

**Software Engineer | EPAM Systems Belarus, Inc. | May 2022 - Aug 2022 | Full-time job**

**Junior Software Engineer | EPAM Systems Belarus, Inc. | Sep 2021 - Aug 2022 | Full-time job**

*The outsourcing company with numerous clients worldwide.*

*Technical stack: C, C++11/14/17, STL, JavaScript, HTML, jQuery, Microsoft SQL Server, Nginx, gdb.*

- Worked, maintained, and modernized a legacy library system (over 40 years old), working with a complex mix of C, Java, Scala, custom protocols, and various libraries (Mar 2022 - Apr 2024, Junior Software Engineer, Software Engineer).
- Worked, maintained and modernized a corporate system for the oil and gas industry, focusing on maintenance and improvement (Oct 2021 - Dec 2021, Junior Software Engineer).
- Fixed 100+ bugs in C, C++, Java, JavaScript, and Scala, ensuring system stability and performance. Developed and implemented 20+ new features, integrating them seamlessly into the existing architecture while meeting customer requirements.
- Worked within an AWS<sup>2</sup> environment, leveraging its tools and infrastructure to optimize the legacy system and support 24/7 operations.

**Software Engineer | RIFTEK, LLC | March 2020 - May 2020 | Full-time job**

*The product company specializes in the development and manufacturing of optoelectronic instruments for measuring geometrical quantities.*

*Technical stack: C++, Point Cloud Library, Open3D, Visual Studio.*

- Developed software for generating 3D models from data collected by 5+ 2D laser sensors, enhancing accuracy in 3D reconstruction by 30%.
- Utilized the Point Cloud Library for efficient processing and manipulation of point cloud data, optimizing data handling and performance.

**Software Engineer | SKB Kamerton, JSC | Oct 2012 - Dec 2012 | Part-time job**

*The product company specializing in the manufacturing, configuration, and implementation of equipment for satellite-based transport monitoring.*

*Technical stack: C/C++, C#, MySQL, PostgreSQL, Visual Studio.*

- Maintained and supported C#-based software for vehicle tracking systems, ensuring high system reliability and performance.

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<sup>1</sup> Unmanned aerial vehicles.

<sup>2</sup> Amazon Web Services.

- Debugged and resolved software issues, working with MySQL and PostgreSQL databases to optimize data storage and retrieval processes.

#### **Research & Development Engineer | PELENG, JSC | Aug 2012 - Dec 2019 | Full-time job**

*The product company specializing in the manufacture of various optoelectronic products, including equipment for Earth observation from space.*

*Technical stack: MATLAB, Ruby on Rails, System Tool Kit, MS Access, PostgreSQL.*

- Developed and optimized image processing and compression algorithms for 10+ satellites and UAVs, improving data efficiency by 20% and enhancing image quality by 25%.
- Designed software for stitching satellite frames, removing defects, and enhancing brightness uniformity, improving remote sensing analysis accuracy by 30%.
- Created ADPCM<sup>3</sup>-based image compression algorithms, optimizing storage and maintaining quality.
- Built predictive models for sensor calibration and quantization, reducing data loss by 15% and improving accuracy in Earth observation.
- Developed database systems and web interfaces for managing satellite data, increasing data accessibility and integration efficiency by 20%.
- Implemented resolution evaluation and image stabilization algorithms, enhancing image clarity for satellite and UAV applications.
- Operated optical payloads during 30+ UAV test flights, ensuring system performance and reliability.

#### **Satellite Monitoring Systems Engineer | ITSZEM, RUE | Jun 2010 - May 2012 | Full-time job**

*The company specializing in land surveying, including the development of land cadastral and topographic maps and plans.*

- Managed the installation and configuration of satellite monitoring systems for transport, ensuring seamless operation and reliability for over 100 units, including road and rail vehicles.
- Conducted regular maintenance and troubleshooting of the monitoring system, reducing downtime by 20% and enhancing overall system performance by 15%.

### **EDUCATION**

- **Polish. Level A1 - B1** : Accent School of Polish | Sep 2022 - Jul 2024
- **Swedish. Level A1 - B2** : The Centre for Swedish Studies | Jan 2022 - Jun 2023
- **C++ EPAM Systems Laboratory** : EPAM Systems, Inc. | Mar 2021 - Aug 2021
- **C++ EPAM Systems Mentoring Program** : EPAM Systems, Inc. | May 2020 - Aug 2021
- **C++ Programming** : IT-Academy.by | Mar 2018 - May 2018
- **English. Level A1 - B2** : Streamline.by | Sep 2015 - May 2017
- **Building web applications with Ruby on Rails** : Course.by | Feb 2015 - Jun 2015
- **Programming in Java** : IT-Academy.by | Oct 2013 - Dec 2013
- **LABVIEW. Data Acquisition** : BSUIR<sup>4</sup> | Jan 2011 - Jan 2011
- **LABVIEW. Basics I** : BSUIR<sup>5</sup> | Dec 2010 - Dec 2010
- **Radiophysics. Satellite information systems and technologies** : BSU<sup>6</sup> | Sep 2007 - Jul 2012

### **CONSENT TO DATA PROCESSING**

I agree to the processing of personal data provided in this document for realising the recruitment process pursuant to the Personal Data Protection Act of 10 May 2018 (Journal of Laws 2018, item 1000) and in agreement with Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation).

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<sup>3</sup> Adaptive differential pulse-code modulation - a compression method encoding signal differences with adaptive quantization.

<sup>4</sup> Belarusian State University of Informatics and Radioelectronics.

<sup>5</sup> Belarusian State University of Informatics and Radioelectronics.

<sup>6</sup> Belarusian State University.