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 Unmanned aerial vehicles**, 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.
Recommendations available on LinkedIn: www.linkedin.com/in/aliaksei-ivanou-by/details/recommendations/.

SKILLS
Programming languages: C, C++, Java, JavaScript, Scala, MATAB, SQL, Ruby, LaTeX, LABView, bash, HTML, CSS.
Fields: Aerospace systems, Unmanned Aerial Vehicles, Object-Oriented Programming, Digital Image Processing.
Tools & Libraries: 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*
  Company description: 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*
  Company description: 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 Amazon Web Services environment, leveraging its tools and infrastructure to optimize the legacy system and support 24/7 operations.
Software Engineer, *Freelance, Jul 2020 - Aug 2021*
  Technical stack: C, C++11/14/17, STL, Google Test, plog, CMake, FLTK, SQLite, Git, Visual Studio.
  - Developed a home accounting app (github.com/aliaksei-ivanou-by/Home_Bookkeeping).
  - Created a user-friendly graphical interface with FLTK for transaction entry and financial analysis.
  - Integrated SQLite for efficient transaction data management and used Google Test for application reliability.
  - Employed PLOG for error logging and debugging, and streamlined development with CMake for build automation.
Software Engineer, *Freelance, Jan 2020 - Mar 2021*
  Technical stack: C, C++11, STL, FLTK, Git, Visual Studio.
  - Completed exercises from Programming: Principles and Practice Using C++ (2nd Edition) (github.com/aliaksei-ivanou-by/Stroustrup_Programming).
  - Gained proficiency in C++ fundamentals, OOP, templates, and standard libraries for robust development.
  - Developed graphical applications with FLTK, enhancing GUI design and event-driven programming skills.
  - Managed projects with Git for version control and Visual Studio for coding, debugging, and organization.
Software Engineer, *RIFTEK, LLC, March 2020 - May 2020, Full-time job*
  Company description: 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*
Company description: 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.
- 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*
Company description: 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-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*
Company description: 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
- **Language course. Polish language. Level A1 - B1 :** Accent School of Polish | Sep 2022 - Jul 2024
- **Language course. Swedish. Level A1 - B2 :** The Centre for Swedish Studies | Jan 2022 - Jun 2023
- **Language course. English. Level A1 - B2 :** Streamline.by | Sep 2015 - May 2017

- **Programming course. C++ EPAM Systems Laboratory :** EPAM Systems, Inc. | Mar 2021 - Aug 2021
- **Programming course. C++ EPAM Systems Mentoring Program :** EPAM Systems, Inc. | May 2020 - Aug 2021
- **Programming course. C++ Programming :** IT-Academy.by | Mar 2018 - May 2018
- **Programming course. Building web applications with Ruby on Rails :** Course.by | Feb 2015 - Jun 2015
- **Programming course. Programming in Java :** IT-Academy.by | Oct 2013 - Dec 2013
- **Programming course. LABVIEW. Data Acquisition :** Belarusian State University of Informatics and Radioelectronics | Jan 2011 - Jan 2011
- **Programming course. LABVIEW. Basics I :** Belarusian State University of Informatics and Radioelectronics | Dec 2010 - Dec 2010

- **Higher education. Radiophysics. Satellite information systems and technologies :** Belarusian State University | Sep 2007 - Jul 2012

CONSENT TO DATA PROCESSING