Aliaksei Ivanou | C++ Software Engineer

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- **11.5+ years of experience** in software development, specializing in **image processing**, **satellite systems**, and **embedded systems:**
  - **4 years** of experience as a **C/C++ developer**, including freelance work, contributing to diverse commercial projects with varying technical stacks and collaborating with distributed teams across different countries and time zones.
  - **7.5 years** of experience as a **MATLAB developer**, focusing on image processing for 10+ Earth Observation satellites and UAVs, developing image processing algorithms for image compression, stitching, and sensor calibration to enhance image quality and processing efficiency, developing image processing algorithms for UAVs, including IMU calibration for accurate frame center coordinate estimation, enhancing optical payload performance.
- Passionate about Image Processing, and Embedded Systems. Skilled at optimizing and restructuring legacy systems.
- Seeking a position of a C++ Software Engineer. Valid work residence permit for Poland.

Tech Stack & Domains

- *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 Domains*: 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. It specializes in Big Data, AI, RPA, IoT, AR/VR, and Blockchain.

- **Conducted** code reviews to ensure quality and maintainability, supported new **developers** through onboarding and mentorship, ensuring their successful completion of the probation period, improved documentation and best practices, and conducted technical **interviews**.
Tech Stack: C, C++, 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.

- **Worked** on **2 projects**, including an Oil & Gas Corporate System and a Library System, adapting to various tech stacks (from **C89** to **C++17**) to meet client requirements and deliver optimal solutions, regardless of legacy or modern technologies.
- **Supported** and **enhanced** projects by **developing 16+ user-requested features**, optimizing **20%** of the codebase, improving functionality and system stability by **15%**, and enhancing overall capabilities through legacy code removal and optimization, resulting in improved system performance, efficiency, reliability by **25%**, and a **15%** boost in functionality.
- **Enhanced user experience** across projects by optimizing database queries, reducing processing time by **15%**, increasing codebase efficiency, and implementing new features, resulting in improved overall functionality and performance.

- **Led a team of 2 developers** in feature development, optimizing project execution and resource allocation, which resulted in a **20%** reduction in feature delivery time.
- **Built** and **maintained strong relationships** with both the **internal team** and the **external customer team**, fostering effective communication that resulted in a **30%** reduction in the integration time for new software versions and deployment to users.

Tech Stack: C, C89, C++, C++17, Java, 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 methodologies, Scrum methodology, Kanban methodology, Code review, PostgreSQL, MySQL.

C++ Software Engineer | Personal project   03.2020 - 06.2021

- **Created** independently 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.

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 defense, security, and industry systems, specializing in optoelectronic products like thermal sights, surveillance, space and UAV systems emphasizing innovation and collaboration with public and private sectors.

- **Developed** and **optimized image processing algorithms** in **MATLAB** for **10+ Earth Remote Sensing satellites**, enhancing data quality and processing efficiency by **40%**, created software for image stitching and defect removal, cutting post-processing time by **60%**, and 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, **calibrated** Inertial Measurement Unit sensors to improve coordinate accuracy by **30%**, and participated in **30+ UAV test flights** to evaluate software performance and ensure precise data acquisition.

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

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. Bachelor's Degree in Radiophysics. Satellite information systems and technologies : Belarusian State University, 09.2007 - 07.2012

Languages

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