RUSLAN

PROFESSIONAL SKILLS:

Programming languages experience:

- Excellent: C/C++, C++ templates;
- Good: Python, Matlab, “G” (LabVIEW);
- Some experience: QT, C#, Java.

Developer tools, KITs, libraries and protocols:

- Visual Studio Code, Microsoft Visual Studio, Matlab, Qt Creator, LabVIEW;
- GIT, GitLab, CVS, SVN, Redmine;
- MPI, OpenMP, STL, MFC, DDK, Aerotech Dev.Kit, TS-7800 Dev.Kit and etc.;
- Modbus, RS 232/485, ISA/PCI, GPIO and etc.;

Operational systems:

- Windows, Linux, Debian, Ubuntu

Languages:

- Russian (Native)
- English (Intermediate)
- English-technical (Upper-Intermediate)

WORK EXPERIENCE:

December 2021 – to the present, Principal-engineer, Huawei Russian Research Institute (ICML).

- 2021 – to the present, Participation as principal software engineer in development of a Parallel Direct Sparse Solver for Clusters.

March 2005 – to the present (partially after December 2021), Researcher, Institute of Automation and Electrometry SB RAS (IA&E SB RAS).

- 2005 – 2007, Participated as software developer in the export contract with the University of Stuttgart (ITO-1) for the modernization of the hardware-software system of a circular laser writing system (CLWS300ITO);
- Participated as software developer in the export contract SHIELD with Impossible Pictures, Inc (England);
- 2006 – 2014, Took part as researcher in the **scientific grant Russian Foundation for Basic Research No. 14-06**;
- Participated as researcher and software developer in the development of the MIOL-Akkord intraocular lens, which **won the Grand Prix at SIBPOLITECH-2006 exhibition**;
- 2008 – 2015, Developed the software for precision measurement of deep profile on white light interferometers. **Leading participant** in economic contracts for the modernization of MII4 interferometers for precision deep profile measurement;
- 2009 – 2012, Participated as software developer from IA&E SB RAS in the export contract with Tecnological Design Institute of Scientific Instrument Engineering (TDISIE SB RAS) for the Harbin Institute of Technology;
- 2012 – 2013, Participated as software developer from IA&E SB RAS in the government contract "Kanal-13" with TDISIE NP SB RAS for opto-mechanical units and technologies for circular laser writing systems supplied to the Ural Optical-Mechanical Plant and Samara Aerospace University;

- 2012 – 2013, **Took part as leading participant** in the export contract with the University of Stuttgart for the modernization of the software for a circular laser writing system (CLWS300ITO);
- 2014 – 2016, Participated as researcher in the **scientific grant from the Russian Foundation for Basic Research No. 14-29-07227** the development of physical foundations, technology and laser complex of thermochemical nanolithography for the synthesis of subwavelength diffractive elements of photonics. Grant completed successfully;
- 2014 – 2016, **Took part as leading participant** in development and implementation of a circular laser writing system CLWS300C/M-UV at the Novosibirsk instrument-making plant JSC "NPZ";
- 2016 – 2021, Participate as researcher in a **scientific grant from the Russian Science Foundation No. 17-19-01721** the development of super-resolution thermochemical laser technology for the formation of computer-synthesized diffraction nanostructures. Based on the results of the work performed in 2016 – 2019, the grant was extended until the end 2021;
- 2018 – 2021, Engage in the development of methods and software for the controlling of writing errors and quality certification of computer-synthesized holograms fabricated on laser writing systems.

August 1999 – March 2005, Software Engineer, Institute of Automation and Electrometry SB RAS.

- Developed a number of methods for characterizing piecewise continuous diffraction microrelief, on the basis of which a software package was created in the laboratory for processing microinterferograms and profilograms;
- Participated as software developer in the economic contract RAITER (2003-2005) for the development the circular laser writing system (CLWS-200) for Samara National Research University named academician S.P. Korolev;
- Participated as software developer in export contracts with Nanooptic (South Korea);
- Participated with presentation on two international scientific conferences;
- Based on the results of the work, **4 scientific articles were published (2 in peer-reviewed journals)**.

EDUCATION:

September 1994 – June 1999, Novosibirsk State University (NSU), Technical faculty in the specialty "Software for computers and automated systems".

- Participated in informatics contests, participated in the student international conference on information technology organized by NSU;
- In 1998 and 1999 as part of the NSU team, **participated in ACM ICPC International Student Programming Contest**;
- Completed a practice at the Laboratory of Laser Technologies of the Institute of Automation and Electrometry, SB RAS;
- In 1999 **defended the diploma project with excellent marks** on the specialty "Software for computer technology and automated systems.

October 1999 – April 2003, Postgraduate studies, Institute of Automation and Electrometry of Siberian Branch of the Russian Academy of Sciences (SB RAS) in specialty 05.13.16 "Application of computer technology, mathematical modeling and mathematical methods in scientific research".

- Participated in two scientific conferences, based on the results of the work performed **3 articles were published in scientific journals** in the field of optics and automation of interferogram measurement processes;
- In 2001, within the grant with "DIOPTIC GmbH", was sent for 2 months to Germany to study modern interference devices and their software;

- In 2002, within the joint project with the Medical Optical Imaging company, was sent to USA for 3 months to carry out work on the development of software for an experimental system for early diagnosis of breast carcinoma.

AWARDS:

- In 2017 became a **laureate of the Government Prize of the Novosibirsk Region** for the implementation of the circular laser writing system CLWS300C/M-UV at the Novosibirsk Instrument Making Plant JSC "NPZ". The resolution of the Governor of the Novosibirsk Region No. 109 of March 31, 2017.

FIELDS OF SCIENTIFIC WORK:

- Research and development of methods and hardware-software systems for writing precision optical elements, increasing the writing accuracy of such elements, controlling and measuring the accuracy and quality of manufactured precision optical elements;
- Research and development of a hardware-software complex for a laser system of thermochemical nanolithography for the synthesis of subwavelength diffractive elements of photonics;
- Research and development of methods, algorithms and software for measuring film thickness, depth and relief shape for optical profilometers based on the Linnik interferometer.

Scientific results for the period from 2005 to 2023:

- The results of scientific activity are described in **15 articles** published in **peer-reviewed journals** and in **36 proceedings of international and Russian conferences**. Received **3 patents of the Russian Federation and 3 certificates of registration of programs**. The total number of **scientific papers is at least 57**; One of latest article **was published in Sensors MDPI Journal (Q1 quartile)**: https://www.mdpi.com/1424-8220/21/19/6635.
- According to the results of certification at the institute in 2023, **was recognized as a highly qualified specialist** in the field of computer-controlled laser systems and manufacturing technologies, control of writing errors and certification of the quality of computer-generated holograms. Its developments are used in a number of Russian and foreign scientific and technical organizations.
- In 2017, the work "Method for minimizing errors in scanning laser writing of computer-generated holograms", in which I participated an active part as researcher and software developer, was recognized as the **most important result of the Institute of Automation and Electrometry for 2017**.
- In 2021, the work "Diffractive sensor elements for registration of writing errors of computer-generated holograms", in which I participated an active part as researcher and software developer, was recognized as the **most important result of the Institute of Automation and Electrometry for 2021**.

Additional work experience:

- In 2001 worked at «OOO Novosoft» as Junior Java Developer;
- 2002 – 2003, Managed commercial project and was one of the software developers of the “voXcat” software for DIOPTIC GmbH for the analysis of tomographic data.
- 2006 – 2020, Managed and develope the project “Device Interface Space” (DIS) – software components and modules, specialized UI to simplify the implementation of “software tools for interfacing hardware and control software” used as part of control software by complex equipment (automated control system).