Curriculum Vitae

Alexander V. Zakharov

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Currently I am interested in a position of a software developer. My overall programming experience exceeds 15 years, of which for more than 10 years I have been developing software used in research laboratories in Russia and abroad.

Major skills and knowledge

- C++ (with STL), C, Python programming languages (development experience of more than 8 years)
- Good knowledge of OOP principles (usage in C++, Python, Object Pascal/Delphi, development experience of more than 10 years)
- Knowledge of fundamental algorithms and data structures
- Experience with development of software for processing large amounts of numerical data
- Advanced knowledge of English language

Additional skills and knowledge

- Basic knowledge of Java, Scala and C# languages
- Knowledge of the basics of relational databases, SQL, XML
- Basic knowledge of HTML, CSS
- Understanding of functional programming paradigm
- Basic knowledge of version control systems, experience with Git
- Object Pascal/Delphi development experience (outdated, not used for 10 years)
- Experience with cross-platform development for Linux and Windows, significant experience with Linux
- Skills of writing scientific and technical texts in Russian and English

Education

Ph. D. in Physical Chemistry, Ivanovo State University of Chemistry and Technology, 2001

Engineer's degree (specialization in chemical technology of materials and products of electronics), diploma *cum laude*, Ivanovo State University of Chemistry and Technology, 1997

List of my Coursera courses and my statements of accomplishment are available on my website and on demand.

Scientific research

I authored 30 papers in international and Russian journals, including those describing methods I have developed and their software implementations. List of my publications, conference talks, grants and scholarships is available on my website and on demand.

Work experience

May 2009 – present (except for the period from February 2010 to May 2011, see below)

Associate Professor, Department of Physics, Ivanovo State University of Chemistry and Technology. Teaching: Physics, Concepts of Modern Natural Sciences. Research: molecular structure studies, including development of techniques and software for processing and analysis of gas-phase electron diffraction data.

February 2010 – May 2011

Associate Professor, Department of Physics, Kigali Institute of Science and Technology, Rwanda. Teaching: Computational Physics, Analogue Electronics, Waves and vibrations, Nuclear Physics.

September 2002 – April 2009 (except for the period from November 2008 to January 2009, see below)

Senior Lecturer, Department of Physics, Ivanovo State University of Chemistry and Technology. Teaching: Physics. Research: molecular structure studies, including development of techniques and software for processing and analysis of gas-phase electron diffraction data.

November 2008 – January 2009

Postdoctoral Fellow, School of Chemistry, University of Edinburgh, UK. Research: development of software for processing data obtained from molecular dynamics simulations.

Projects

- MDVibCor – a program for computing vibrational corrections for gas-phase electron diffraction using molecular dynamics data (C++, GSL, project page on github, description on my website)
- Z^2IDP – a program for gas-phase electron diffraction data reduction (C++, Qt, description on my website)
- A set of utilities for simplifying computations of vibrational corrections (Python, description on my website)
- Personal website (HTML, CSS3)
- A program for control and data acquisition for the MD-100 automated microdensitometer (Borand Pascal, has been used in the ISUCT laboratory of gas-phase electron diffraction for 15 years, description on my website)
- AZ's Book Reader – a program for reading e-books (probably one of the first), written in 1997 (using Delphi). It became obsolete with the appearance of CoolReader, FBReader, FictionBook format, etc., the last version was released in 2000.