Vladislav Toigildin

Software Developer





Experience

06.2015 -

Software engineer, *IBM*, Moscow.

03.2016 Development of Linux driver (zfcp) for IBM z System (s390x) storage hardware.

- Code development of device Linux driver.
- Development of internal perf tool (C++ and Perl).
- Work with an international team. Regular code review.
- Design, creation and management of test environment.

09.2014 - **Researcher**, *Research Computing Center MSU*, Moscow.

o8.2016 Design and development of a parallel version of the algorithm of repeats search in biological sequence.

- Development of parallel spectral-analytical method for heterogeneous distributed multiprocessing systems.
- Design of object-oriented architecture for encapsulation of IPC and GPU computing.
- Implementation of the parallel program using MPI and CUDA.
- Analysis of efficiency and scalability of parallel program.

11.2013 – **Technician**, Nuclear Safety Institute of the Russian Academy 10.2014 of Sciences, Moscow.

Development of a model of hydrodynamic process in liquids using CABARET scheme.

- Design and implementation of GUI (Qt).
- Configuration of development environment.
- Implementation of new features into the main project code (Fortran).
- Teaching the team the basics of *nix and features of HPC software development.

Education

2010 - 2015

MSc (equivalent) in Applied Mathematics and Computer Science, Lomonosov Moscow State University, Moscow, Faculty of Computational Mathematics and Cybernetics.

- Qualification: specialist in mathematics and system programming
- o Department of Supercomputers and Quantum Informatics
- o Specialization: high performance computing
- Master thesis "Research and development of parallel algorithm for genome blurred repeats search"

Technical skills

Languages C, C++, Bash, Assembler, Perl(basic), Fortran(basic)

VCS Git

OS GNU/Linux, FreeBSD

HPC MPI, Cuda, OpenMP

Builder Make, Autotools

Others Qt(basic), LTEX, Gnu plot

Publications

A.N. Pankratov, R.K. Tetuev, M.I. Pyatkov, V.P. Toigildin, N.N. Popova Spectral analytical method of recognition of inexact repeats in character sequences. – Proceedings of the Institute for System Programming Volume 27 (Issue 6). 2015 y. pp. 335-344. Abstract

V.P. Toigildin Research and development of parallel algorithm for genome blurred repeats search. – CUDA Almanac, 2015 February. – p.12

Awards

2014

CUDA Center of Excellence MSU Grant, Moscow.

Won a grant for significant acceleration of computing for my research by using GPU.

Open Source Project

mpiSBARS

Parallel program for recognition of extended inexact repeats in genome. MPI+CUDA model is used for better scalability on heterogeneous high performance systems.