Vladislav Toigildin

Software Developer

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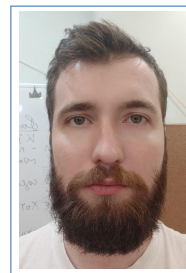
Experience

11.2016 – 01.2019 **Deep Learning Performance Engineer**, *NVIDIA*, Moscow.
Development of a system for benchmarking DL (TensorFlow, PyTorch and etc) frameworks using GPUs.

- Developed a toolchain for automation of the test process. Speed it up in 5 times.
- I was a senior maintainer for monthly baselines performance data for a year.
- Developed DL benchmarks: preparing data and models, deploying, running, collecting data, uploading stats into database.
- Updated legacy Perl code to Python.
- Participated in the design process of cloud container infrastructure.

09.2014 – 08.2016 **Researcher**, *Research Computing Center MSU*, Moscow.
Design and development of a parallel version of algorithm for genome blurred repeats search.

- Developed a parallel spectral-analytical method for heterogeneous distributed multiprocessing systems.
- Designed a object-oriented architecture for flexible balancing between computational nodes.
- Developed the parallel program using MPI and CUDA.
- Optimized app for linear scale up to 2048 processors.

06.2015 – 03.2016 **Software engineer**, *IBM*, Moscow.
Development of Linux driver (zfcp) for IBM z System (s390x) storage hardware.

- Developed Linux driver for SCSI devices.
- Modified internal disk perf analyze tool (C++ and Perl).
- Designed and implemented stress testing system.

11.2013 – 10.2014 **Technician (Part Time)**, *Nuclear Safety Institute of the Russian Academy of Sciences*, Moscow.
Development of a model of hydrodynamic process in liquids using CABARET scheme.

- Designed and implemented GUI (Qt).
- Added GPU computing support (Cuda)

Technical skills

Languages	Python, Perl, Bash, C, C++
Frameworks	Flask, Django
OS	Linux
CI/CD	Docker, GitLab CI
SQL	PostgreSQL
VCS	Git
HPC	MPI, Cuda, OpenMP
Builder	Make, Autotools
Others	Qt, LaTeX, Gnu plot

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
- Department of Supercomputers and Quantum Informatics
- Specialization: high performance computing
- Master thesis "Research and development of parallel algorithm for genome blurred repeats search"
- Knowledges: Algorithms and Data structures, Parallel data processing, Operating systems, Databases, Computer architecture and assembler language, Mathematical analysis, Discrete mathematics, Numerical methods and others.

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.

Additional information

Languages English(intermediate), Russian(native)
Interests Improv theatre

You can find recent and more detailed version cv here.
Last updated: November 18, 2020

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