Sergey Bashkirov

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Summary

Application software engineer with R&D experience in software development for scientific devices with active open source community participation; experienced in GUI design, machine learning applications, firmware design; have experience in algorithms development, data acquisition and processing, computer vision; good develpment time management abilities, problem solving R&D experience.

Technical proficiencies

Programming: C, C++, Java

Scripting: Lua, Ruby, Python, R, SQL, Octave, Matlab, Shell scripting

Platforms: Linux, Windows

Web technologies: Ruby-on-rails4, Javascript, Bootstrap

Frameworks: Qt, Boost, Swing, WxWidgets

Math applications: Data acquisition, data processing, filtering, automation, regression model extraction, Kalman filtering

Personal achievements

- Achieved high precision with equipment made of low cost components by applying machine learning techniques to calibration process.
- Reorganaized production and supplies purchase processes by perforing statistical predictive contracts analysis. Made business control software for warehouse keeping, product assembling, purchasing and contracts tracking.
- Simplified "find the same place" task for AFM after sample reinstallation by making video aligning and navigation by video mode.
- Created from scratch software for controlling Atomic Force Microscope.
- Reduced AFM modes development time and eased prototyping by implementing scriptable GUI builder and hardware embedded real time scripting language.

Most recent work experience

Aist-NT Inc.   **Novato, CA**
Software Engineer
AFM software development, firmware development, image processing, AFM modes design, AFM-Raman coupling, actuators control, data acquisition and processing, production control

Transmag   **Santa Rosa, CA**
Contractor
USB based BLDC motor controller's interface development. Designed firmware, user interface, suggested proper USB schematics.

Education

Moscow Institute of Physics and Technology   **Moscow, Russia**
Master of Science in Applied Mathematics and Physics

- **Most recent courses taken:** Circuits & Electronics, Machine learning, SAAS, Kalman filtering, Autonomous navigation, Statistics with R, Node.JS, Angular.JS, Booststrap, JavaScript.

Open source projects participation

grambo-pi.com: Created expandable stackable PCBs set for RaspberryPi computer for robot prototyping.

xonotic.org: Created Blend2map Blender3D to MAP exporter.

chibios.org: Submitted I2C slave mode driver, IWDG driver.

QtLua: Provided a patch making Object::connect() work in the same way as in Qt.

Gaw: Provided a patch fixing crashes with default configuration file for gaw waveform viewer.