Sergey Bashkirov

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Goal

Software Engineer with R&D experience in software and firmware development related to Atomic Force Microscopy, Raman TERS imaging with active opensource community participation is seeking for a full time position in software/firmware development.

Areas of expertise

Crossplatform programming: GUI, hardware communication

Firmware design: Real time firmware, actuators control, physical properties measurement, RTOS and bare metal firmware

Visualization: Widgets design, Spatial, 3D geometry, 2D/3D visualization

RPC design: Remote control over network

Scripting and automation: Scripting languages, embedded scripting, bare metal firmware scripting

Math: Computer vision, Kalman filtering, machine learning, statistics, data, image processing

Technical proficiencies

Programming: C, C++, Java, microcontroller assembler

Platforms: Linux, Windows, ChibiOs, FreeRTOS

Frameworks: Qt, Boost, WxWidgets

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

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

Various: PCB design and hardware debugging, mature soldering skill

Most recent work experience

Aist-NT Inc. **Novato, CA**
Software Engineer

- Created and maintained main AFM software.
- Designed scriptable GUI building framework and embedded real time scripting language.
- Created firmware for a number of devices, designed PCB for a few hardware solutions.
- Created WEB based software for warehouse keeping, production control, expenses calculation, forecasting.

Transmag **Santa Rosa, CA**
Contractor
USB based BLDC motor controller development.

- Designed GUI for BLDC motor setup and testing.
- Designed firmware for USB interaction and BLDC parameters read/write.
- Suggested USB part schematic design in order to provide reliabe USB communication.

Education

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

- Circuits & Electronics, Machine learning, SAAS, 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 Blen2map 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.