

Mikhail Menshikov

St. Petersburg, Russia / Puebla, México (*Tengo permiso de residencia en México*)

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Skills

FPGA • Microcontrollers • Electronics • Digital Signal Processing • Verilog HDL • C/C++ • C# • Python • Altium Designer • Raspberry Pi

Summary

Electronics Engineer, FPGA Design Engineer and Embedded Software Engineer looking for job opportunities abroad or a remote job.

I have experience with SystemVerilog hardware description language for RTL design and verification, and C language for microcontroller programming on bare metal and with RTOS. I can develop desktop applications for Linux in Qt/C++ and for Windows in C#. My experience includes working with Altera, Xilinx, GoWin FPGA microchips, STM32, XMOS, NXP, AVR microcontrollers and Altera NIOS SoC systems. I can design, routing and soldering electronic circuits.

I have extensive experience in EMC and troubleshooting of electrical boards. My job always requires me to have strong attention to detail and problem-solving abilities.

Education

- **ITMO University, St. Petersburg, Russia** (1994 - 2000)
Master's degree, Optical and Electronic Devices and Systems Engineering
- **Peter the Great St. Petersburg Polytechnic University, Russia** (2011 - 2014)
Certificate, Computer Science Courses

Experience

Senior Embedded Software Engineer

[SPE Meatec Ltd](#), Moscow, Russia. Oct 2018 - June 2023 (4 years 9 months)

I have developed firmware and electronic circuits for a 4-axis wire-cut electrical discharge machine (EDM) and for a stone cutting CNC machine. I made a circuit design, FPGA and microcontroller firmware as well as a user interface for Linux. My tools:

- Electronics: P-CAD, EasyEDA;
- Microcontrollers: STM32, TrueStudio, C;
- FPGA: Intel FPGA, Quartus, QuestaSim, SystemVerilog;
- User interface: Linux, Qt/C++;
- G-code, stepper and servo motors.

Senior Embedded Software Engineer

[Radius Avtomatika JSC](#), Moscow, Russia. May 2018 - Sep 2018 (5 months)

Developed several programs for protection devices used in electrical substations using Verilog, xC and C# languages. Specifically,

- Mastered X MOS multicore processor, xC language and GOOSE/GSE (IEC 61850) protocol and developed a program for a spark protection device;
- Developed sigma-delta demodulators (CIC filter) on FPGA for 16 adjustable ADCs.

FPGA Design Engineer

[Neotec](#) (freelance), Moscow, Russia. Dec 2017 - Apr 2018 (5 months)

Developed an FPGA controller for synchronous control of 8 servo motors with trajectory calculation for linear and arc motion with constant acceleration for a Milling-Engraving CNC machine.

Senior Electronics Engineer

[SPC Echo+ Ltd](#), Moscow, Russia. Oct 2015 - Oct 2017 (2 years 1 month)

Developed FPGA controllers for an ultrasonic phased array system and two-channel TOFD non-destructive testing (NDT) systems.

- Developed an FPGA SoC design, programs for a NIOS processor and C# debug programs;
- Formed an ultrasonic beams and calculated a synthetic aperture for a 32-elements linear array of transducers;
- Developed DSP algorithms for ultrasonic signals (FIR, Hilbert, signals accumulation...).
- Used USB 3.0/2.0 controllers, CANopen protocol, SerDes LVDS.

FPGA Team Lead

[SPE Radar-mms JSC](#), St. Petersburg, Russia. May 2011 - Sep 2014 (3 years 5 months)

Contributed to the research and development of a mechanical mmWave radar system by developing firmware for FPGA and microcontrollers.

- Emitted, received and processed modulated radiolocation signals (PSK modulation, FFT);
- Implemented a field oriented control for electric motors using a Sin-Cos encoder and PWM. I used CAN protocol for an electric motors control;
- Transmitted data through Ethernet (UDP/IP, ARP) and depicted radiolocation images with MatLab.

Senior Electronics Engineer

NIIREK OJSC, St. Petersburg, Russia. Jan 2008 - May 2011 (3 years 5 months)

Developed electronic circuits, FPGA projects and microcontroller programs for avionics and mmWave radar systems. I used MIL-STD-1553B, ARINC 429, UART, ModBus RTU, I2C, SPI, SDRAM.

Electronic Engineer

SDB Systema OJSC, St. Petersburg, Russia. Dec 2000 - Dec 2007 (7 years 1 month)

Developed auxiliary electronic devices and automatic test equipment (ATE) for a mmWave radar system. These were mainly PCI boards.