

# Vladimir Yu. Ivanov

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Vladivostok, Maritime Province, Russia

## SUMMARY

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Proficient skilled worker with a focus on the EECS: 6+ years in embedded systems design. I have built own experience through hardware and software codesign. Strong skills in electrical engineering, computer sciences and researching. Ability to produce stable results under high pressure conditions. Powerful human qualities. I aim to work in an innovative company in a team of professionals and to lead own product from nothing till mass production. Main areas of interest: consumer electronics, robotics, automotive and game industry, medical equipment, telecommunications, computer networks, internet of things, indoor navigation and more. Looking for new opportunities to continue the career.

## EDUCATION

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### Far Eastern Federal University, Vladivostok

August 2005 – June 2010

M.Sc. Department of General Physics and Electronics.

Sun Microsystems technical contest laureate.

GPA: 3.63/4

### Secondary school 51, Vladivostok

September 2003 – June 2005

Secondary education.

Indepth study of Japanese Language.

GPA: 3.80/4

### Secondary school 51, Vladivostok

September 1995 – June 2003

General education.

Indepth study of Japanese Language.

GPA: 3.86/4

## CERTIFICATES

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- 2-month course «6.00.1x: Introduction to CS and Programming». Excellent passing grade.  
The online learning initiative of Harvard University and MIT, December 2013.
- 3-month course «6.002x: Circuits and Electronics». Maximum passing grade.  
The online learning initiative of Harvard University and MIT, June 2012.
- Course of Japanese Language. The course of 1150 hours and a number of final exams.  
Secondary school 51, Vladivostok, 1995 – 2005.

## MAIN EXPERIENCE

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### Rhonda Software

October 2012 – present

*Embedded Software Engineer (full-time)*

Vladivostok, RU

- Camera SDK development team member for digital imaging products based on *Ambarella* SoC.
- Full independent development cycle of the Transport Module (TM) within SDK team: presentation of the design plan and architecture (Mind Maps, UML), initial implementation (plain C, C++), build system design (CMake, Python, BAT, Bash), UT infrastructure bring up (CppUTest), documentation support (Doxygen). The TM is used to autotest SDK functionality in QA lab via RPC and for factory acceptance testing of the customer's products on production lines. The module is provided as

cross-platform and multi-transport library with C-style asynchronous API which transparently covers UART, USB and TCP/IP data exchange capabilities. The TM is integrated by application engineers on Windows, Linux and customer's platforms (ARM, ThreadX, embedded Linux) using wide range of supported (cross)compilers (Visual Studio, GCC, MinGW, IAR).

- Data link layer protocol design and implementation for physical layers without data delivery guarantee to transparently integrate this capability via dedicated API (e.g. TM in case of data exchange over UART).
- Customer's boards validations (bring up) in *Flextronics* factories (TX, United States). Close coworking with local engineers (electrical, mechanical, NPI) and customers on EVT and DVT project phases: *Nanit* (baby monitor, Linux based product), *Fusar* (motorcycle DVR), *Glide* (Apple Watch wristcam, rigid-flex boards).
- Peripheral domain support as the member of SDK sub-team: embedded Linux and RTOS device drivers, FW burning tool features (Qt application) for QA lab, EE and PCB design review for customer's projects.
- *CSR* contractor. Distributed support of the embedded software for ODM/OEM customers based on *COACH* (Camera On A Chip) SoC with MIPS core. Main brand manufacturers of imaging devices: *Nikon*, *Pentax*, *Garmin*, *Samsung*, *Fujifilm*, *Ability*. Support sites are located in a number of countries: China, Israel, Japan, Russia, South Korea, United States.
- Solving of time critical project issues under customer's pressure. Number of various «MP block» software problems were resolved and processing performance of UI images in customer's projects was improved.
- Peripheral domain support as the member of team. CMOS/CCD image sensors: drivers bug fixing and implementation of new capabilities, support for smear correction driver team. NV memory storages: FS bug fixing, NAND drivers timing optimizations. Display cluster: issues related to video output (LCD, HDMI). Volatile memory storages: DRAM performance measurement and timing optimizations. On-chip peripheral: support for BSP (GPIO, ADC, PWM, RTC, SPI, I2C, UART, USB, function-specific HW units and more). PC-side applied software: bug fixing and new features implementation for FW burning tool (windows forms). Various peripheral-specific algorithms: e.g. dynamic voltage management based on PID-controller.
- SoC software trainings in *CSR Israel* (formerly *Zoran Corp.*): MATAM, Haifa.

### **Spider Pacific**

October 2010 – October 2012

*Embedded Systems Engineer (full-time)*

Vladivostok, RU

- Applied hardware development startup company.
- Mechanicalless manipulator prototyping as part of the project management software system: accel- and gyro-based console.
- Transformerless vacuum tube stereo amplifier prototyping for headphones: simple SRPP cascade and preamplifier per channel.
- Prototype of the PoE injector (PSE device) designing and manufacturing. IEEE 802.3af full compatible implementation based on the LTC4263 IC by *Linear Technology*. The product was used in a number of computer network projects with different sets of PD devices: *Cisco* routers, IP cameras and more.

## **OPTIONAL EXPERIENCE**

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### **Dalpribor**

May 2016 – August 2016

*Embedded Software Consultant (contract)*

Vladivostok, RU

- Military avionics project of design bureau based on the «Baget» platform: VMEbus computer assembly with MIPS, DSP, ADC, RS-232 board modules and RS-232 sensor modules which is driven by OS2000 POSIX compatible RTOS.
- Leading developer left the company and head of bureau invited to help to cover open items which blocks initial delivery of the project to the customer: to solve system stuck problem after 2 hours of

autonomous operation and to fix wrong initialization of new DSP boards after power up. First item relates to investigation of the toolchain, build system and code base to solve software problem. Second one – to conversation with *InSys* company which is developer of DSP boards to check ideas.

- Terms of the contract were covered completely ahead of time: 2.5 month instead of 4 by schedule.

## SKILLS

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- **SW development**

Embedded C and C++ (source code mixing). C++11. STL. Boost. Interrupt- and event-driven design. Free reading and writing Assembler code areas. Development process automation: Python, Bash. DevOps: Docker (docker-py), Vagrant. Build systems: Make, CMake, NMake, Jom, Buildroot. Multi-threading: Atomthreads, ThreadX, Win32, POSIX. Device drivers, LKM. Network I/O: Berkeley sockets, Winsock. USB frameworks: libusb. UT frameworks: CppUTest. Static code analyzers: Cppcheck, ReSharper C++. VCS: Perforce, SVN, Git. Code inspection: Code Collaborator, Review Board (rbt tools). Issue trackers: JIRA, Redmine, YouTrack. CI: QuickBuild. Documentation: Doxygen, TeX, MkDocs. GUI frameworks: Qt. iOS apps: Swift. Progressive system languages: Rust, Go. Crash logs analyzing. Remote debugging (customer support). JTAG in-circuit emulation.

- **HW development**

Digital/analog/tube circuits design and analysis: electrical and thermal calculations, circuits emulation. BOM selection: excellent guided both in through-hole and surface-mount packages. Routing and assembling of prototype PCBs: Eagle CAD, Sprint Layout, KiCAD, Altium Designer. Excellent soldering skills. Strong knowledge of Atmel AVR 8-bit MCUs. Power electronics understanding: linear and impulse circuits. EE lab equipment usage: digital power supply, multimeter, logic/spectrum analyzer, analog/digital oscilloscope, function generator, autotransformer and more.

- **Languages**

Russian (native), English (ability to hold conversation), 日本語 (elementary on N5 level)

- **Miscellaneous**

Foundations of project management: Spider Project. Lathe and milling works: Proxxon equipment. Bring up of computer networks. Experience in transferring of knowledges: electronics and programming foundations. Driver license in progress: motorcycles, cars (manual and automatic transmission).

## PUBLICATIONS

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- Ivanov V. «Diagnostic system of the motor drive module for the underwater robot». Master thesis. Institute of Marine Technology Problems FEB RAS. Vladivostok, June 2010.
- Ivanov V. «Automated speed control of the motor shaft». Bachelor thesis. Institute of Physics and Information Technologies FEFU. Vladivostok, May 2009.

## KEYWORDS

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1-Wire, ADC, Altium Designer, Atomthreads, AVR, avr-gcc, BAT, Bash, Berkeley sockets, Boost, board bring up, BSP, Buildroot, C, C++11, CAN, CLion, CMake, Code Collaborator, Cppcheck, CppUTest, cross-compiler, Cygwin, DAC, device driver, DevOps, Docker, Doxygen, Eagle CAD, Eclipse, Eddystone, eTraxis, FAT, FileX, GCC, Gerber, Git, GNU toolchain, Go, G-Sensor, gyro sensor, HW&SW codesign, IEEE 802.3af, I2C, IAR, iBeacon, image sensor, iOS, JIRA, Jom, JTAG, KiCAD, libpng, libusb, Linux, LKM, Make, Maxima, MCS-51, macOS, microcontroller, MIPS, Mind Maps, MinGW, MkDocs, NMake, OOP, OS2000, OSI, Perforce, Perl, PHP, PIC, POSIX, Proxxon, PyCharm, Python,

Qt, QuickBuild, RAW Bayer, R&D, Redmine, ReSharper C++, Review Board, RS-232, RTOS, Rust, SPI, SPICE, Spider Project, sde, SoC, Source Insight, Sprint Layout, SQL, STL, SVN, Swift, TCP/IP, T<sub>E</sub>X, ThreadX, UART, UML, USB, V8, Vagrant, Visual Studio, Win32, Windows, Winsock, YouTrack, zlib

## HOBBY AND INTERESTS

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- Hi-Tech and impacting one on a human being, hardware and software codesign
- Physics, applied math, world economic
- Professional sports leagues: NHL, NFL, MLB
- Swimming (sports category), marine multi-athlon (sports category)
- Cooking, electronic music
- Speedcubing, podcasting