VLADIMIR IVANOV

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SUMMARY

Proficient wide-skilled engineer with a focus on the EECS: 5+ years in designing of embedded systems. I have built own experience through hardware and software codesign. Strong skills in electrical engineering, computer science and research area. 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. Main areas of interest: consumer electronics, robotics, automotive and game industry, medical equipment, telecommunication, computer networks and more.

EDUCATION

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

- Two-month course «6.00.1x: Introduction to CS and Programming». Excellent passing grade. The online learning initiative of Harvard University and MIT, December 2013.
- Three-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.

EXPERIENCE

Rhonda Software October 2012 – present
Embedded Software Engineer, full-time Vladivostok, RU

· Camera SDK development team member for Ambarella Inc. *imaging* SoC with *ARM Cortex-A* core.

· Transport Module (TM) implementation for test framework development team in order to test SDK in automated mode. Full independent development cycle: design plan presentation (Mind Maps), architecture design (UML), coding (C, embedded C++), build system implementation (CMake, Python, BAT, Bash), unit test infrastructure bring-up (CppUTest), documentation support (Doxygen). The module is provided as cross-platform and multi-protocol core library with C-style API and asynchronous data transceiver functionality for RPC. TM transparently covers UART, USB and TCP/IP underlying protocols. The module is able to be launched on Windows, Linux and embedded HW-platform the SDK is tested on. Compilers covering: Visual Studio, GCC, MinGW and IAR.

· Data-link layer protocol prototyping for various physical transports: UART, I2C, SPI, etc. One solution – several transports covering. The protocol is included as part of TM and is used for customer devices communication as is.
· Firmware burning tool support and features implementation: Qt application. Build environment is packed to docker container.
· Embedded Linux device drivers and applications implementation.
· EE design review for customer's projects.
· Business trip to Flextronics International: Plano, TX, United States. Collaboration with electrical and mechanical engineers to bring up initial prototype for the new imaging product.

· CSR plc. contractor. Work on the COACH *imaging* SoC platform with *MIPS* core.
· Distributed supporting of the embedded software for ODM/OEM customers: main brand-manufacturers of imaging devices (digital still cameras, mobile driver recorders, action cameras, etc).
· Support sites are located in a number of countries: China, Israel, Japan, Russia, South Korea, US.
· Solving of time critical project issues under a customer's pressure. Resolved a number of various «MP block» software and hardware problems. Improved processing performance of UI images for customer's projects.
· *Peripheral* domain support. CMOS/CCD image sensors: drivers bug fixing and implementation of new capabilities, support for smear correction driver team. NV-memory storages: file system 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 usual BSP device driver set (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 firmware burning tool (windows forms). Various peripheral-specific algorithms: e.g. dynamic voltage management based on PID-controller.
· Business trip to CSR Israel (formerly Zoran Corp.): MATAM, Advanced Technology Center, Haifa.

Spider Pacific October 2010 – October 2012
Embedded Systems Engineer, full-time Vladivostok, RUS

· Applied hardware development start-up.
· Mechanicalless manipulator prototyping as part of the project management software system. Accelerometer- and gyroscope-based console.
· Transformerless vacuum tube stereo amplifier prototying for headphones. Simple SRPP cascade and preamplifier per channel.
· Prototype of the «Power over Ethernet» injector design and manufacturing. Physical layer of the IEEE 802.3af specification was implemented. The product was used in a number of computer network projects.
· Later, in November-2013, implemented IEEE 802.3af full-compatible prototype for this company based on the LTC4263 IC by Linear Technology Corp.

SKILLS

- ***SW development***

  Embedded C and C++: source code mixing. C++11. STL. Boost. Interrupt- and event-driven design. Ability to read and write code areas on assembler. Development process automation: Python, Bash. DevOps: Docker (docker-py), Vagrant. Build systems: Make, CMake, NMake, Jom. Multi-threading: Atomthreads, ThreadX, Win32, POSIX. Device drivers. Network I/O: Berkeley sockets, Winsock. USB frameworks: libusb. Unit test frameworks: CppUTest. Static code analyzers: Cppcheck, ReSharper C++. Version control: Perforce, SVN, Git. Code review: Code Collaborator, Review Board (rbt

tools). Issue trackers: JIRA, Redmine, YouTrack. CI: QuickBuild. Documentation: Doxygen, TEX, MkDocs. GUI frameworks: Qt. Progressive system languages: Rust, Go.

- ***HW development***

  Digital/analog/tube circuits design and analysis: electrical and thermal calculations, circuits emulation. Selection of electronic components: 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 microcontrollers. Power electronics understanding: linear and impulse circuits.

- ***Debugging***

  Crash logs analyzing. Remote debugging: customer support via e-mail threads and Skype in case of non-reproducible locally problems. In-circuit emulation: JTAG. Lab-equipment usage: digital power supply, multimeter, logic/spectrum analyzer, analog/digital oscilloscope, function generator, autotransformer and more.

- ***Languages***

  Russian – native
  English – professional working proficiency
  日本語 – elementary proficiency

- ***Miscellaneous***

  Foundations of project management: Spider Project. Lathe and milling works: Proxxon equipment. Bring up of computer networks. Experience in transferring of knowledges to students: electronics and programming foundations.

PUBLICATIONS

- 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

1-Wire, ADC, Altium Designer, Atomthreads, AVR, avr-gcc, BAT, Bash, Berkeley sockets, Boost, BSP, C, C++11, CAN, CLion, CMake, Code Collaborator, Cppcheck, CppUTest, cross-compiler, Cygwin, DAC, device driver, DevOps, Docker, Doxygen, Eagle CAD, Eclipse, eTraxis, FAT, FileX, GCC, Gerber, Git, GNU toolchain, Go, G-Sensor, gyro sensor, HW/SW co-design, IEEE 802.3af, I2C, IAR, image sensor, JIRA, Jom, JTAG, KiCAD, libpng, libusb, Linux, Make, Maxima, MCS-51, Mac OS, microcontroller, MIPS, Mind Maps, MinGW, MkDocs, NMake, OOP, 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, TCP/IP, TEX, ThreadX, UART, UML, USB, V8, Vagrant, Visual Studio, Win32, Windows, Winsock, YouTrack, zlib

HOBBY AND INTERESTS

· Hi-Tech and impacting one on a human being, designing hardware and software
· Physics, applied math, world economic
· Professional sports leagues: NHL, NFL, MLB

- Swimming (sports category), marine multi-athlon (sports category)
- Cooking, electronic music
- Speedcubing, podcasting