Anton Makarevich

Lead FPGA/Embedded Developer, 17 years of experience
GMT+1

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ABOUT

Accomplished FPGA/Embedded Developer with 17 years of commercial experience in FPGA and embedded systems (software, firmware,hardware), working in teams ranging from 2 to 15 members, both remotely and on-site. My primary area of expertise includes a full cycle of FPGA based product development (prototyping, implementation, debugging, verification, delivery). I am also proficient in C/C++ development for various microprocessors/microcontrollers, embedded systems, drivers and desktop applications. Committed to continuous improvement and problem-solving in complex systems.

SKILLS

Programming Languages: VHDL/Verilog/SystemVerilog, C/C++, LabVIEW, MATLAB, Python, Tcl/Tk, Assembler.

Development Tools: Vivado, Vitis, Quartus, Xilinx ISE, Visual Studio, IAR, Keil, Eclipse, MPLAB, LabVIEW, MATLAB, System Generator, High Level Synthesis, Active-HDL, ModelSim, System-On-Chip (SoC), System-On-Module (SOM), KRIA, Digital Signal Processing (DSP), Embedded Linux, PetaLinux, MicroBlaze/Nios, Device Drivers, Kernel-Mode Driver Framework (KMDF), RTOS, Git, JIRA, AI Agents.

Protocols & Standards: Ethernet, USB (FS/HS/SS), PCIe, LVDS, HDMI, DisplayPort, MIPI, DDR, Gigabit Transceivers; GPIB, SPI, UART, RS-485, I2C, JTAG, GPIO, CAN, HART, MIL-STD-1553.

PROFESSIONAL EXPERIENCE

Lead FPGA/Embedded Developer, ECTRON   Aug 2019 - Present, 5.5 YEARS

- Led full development cycle with board bring-up for multiple Computer on Module (COM) boards/DevKits (based on Xilinx SoC/MPSoC FPGAs, KRIA SOM), which are Azure IoT ready, adaptable to Google or Amazon Cloud, targeting various applications (Edge Computing with AI/ML, IoT Solutions, Industrial Machinery, COTS, MIL etc).
- Migrated and enhanced Backup Overspeed embedded system operating in 6,000+ turbines/engines worldwide. Implemented new features, improving system performance by 12%.
- Developed LabVIEW hardware test system, fully automating Hardware-in-the-Loop (HIL) verification process, reducing product validation time by over 500%.
- Implemented Built-In Self-Tests (BIST) for several Xilinx SoC/MPSoC FPGA boards, reducing deployment time by 60%.

Lead FPGA/Embedded Developer, XCELER SYSTEMS   Jul 2016 - Aug 2019, 3 YEARS

- Developed and verified in hardware FPGA and Embedded C design of highly reconfigurable FPGA/ASIC Synaptic Engine Generator, that integrates into standard compiler process, providing an average of x6 speedup, enabling customers an easy-to-use, low-power high-performance solutions with unique architecture.
- Full FPGA SoC design cycle with various high/low-speed interfaces (Ethernet, USB, PCI, DisplayPort, Gigabit Transceivers, HDMI, SPI, I2C, UART, GPIO, etc.), significantly expanding product applications and market reach.
- Implemented and added a custom DSP core into existing embedded product, securing 1 additional contract.

Senior Software/Firmware Developer, PSA   Jul 2010 - Jun 2016, 6 YEARS

- Led numerous firmware/hardware designs for Xilinx/Altera FPGA based boards/devices, increasing company portfolio by 22%.
- Firmware development for various microprocessors/microcontrollers (Microchip, TI, Atmel, NXP, Cypress, ADSP, ARM Cortex), leading to 6 successful new product launches and improving 8 existing products in multiple Consumer/Industrial areas.
- Gained hands-on development experience with Linux/RTOS/Windows/DSP embedded systems in various real-world applications.
- Participated as a core member in onsite project kick-offs, provided project estimates and documentation support, meeting the needs of current clients and securing new ones.

Software/Firmware Engineer, PELENG   Jul 2007 - Jun 2010, 3 YEARS

- Full FPGA/CPLD based cycle device development (prototyping, implementation, debugging, verification) across multiple projects, securing 3 new contracts and contributing to 28% department revenue growth.
- Developing microcontroller/microprocessor firmware, writing PC-based software (drivers, test units, mathematical models).
- Provided technical and documentation support for released products, resolving current clients' requests and gaining new customers.

EDUCATION

Belarusian State University of Informatics and Radioelectronics (BSUIR), System Engineer   2002 - 2007, 5 YEARS

ADDITIONAL INFORMATION

Languages: English – fluent, Belarusian/Russian – native.
Hobbies: Travelling, cycling, IT, adventure racing.