KIRILL V. BELYAYEV Boulder, CO ,USA

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SUMMARY STATEMENT

For the past 7 years or so, I've been working as an Independent Contractor. It's a challenging place to be. There is not much stability and lack of guarantees. However, I immensely enjoy the freedom and opportunity to work for the smaller companies and start ups. It keeps me on my toes and my technical abilities are at their sharpest at the moment. I really enjoy connecting with people and nurturing friendships through my field of work. At the end of the day, bringing my client's ideas into reality is the most rewarding experience ever! It fulfills me and reminds me of why I choose this path in the first place!

CORE COMPETENCIES

Product Development/Testing	GUI Development	Creative Problem Solving
Hardware/Software/Layout	Web Development	Goal and Detail Orientation
Digital and Analog Design	Coding Ninja	Self-sufficiency and Leadership
Microprocessors and DSPs	Productivity and Efficiency	Excellent Interpersonal Skills
Programmable Logic	Component Research/Integration	Diverse Life Experiences
	Mass Production	Unique Personality

PROFESSIONAL EXPERIENCE

Owner, Contract Engineer

2010 - Present

Simply Works Electronics, Boulder, CO

Cryptotronix, Fort Collins, CO *June – January, 2018*

- Designed multiple printed circuit boards for the client
- Worked on hardware and text recognition python script for the DEFCON presentation
- Implemented Elliptic Curve Cryptography algorithms on Xilinx FPGA
- Applied High Level Synthesis to generate cryptographic algorithms as FPGA IP blocks

Roccor, Longmont, CO *April – December, 2017*

- Worked on python based image processing code
- Cleaned up, refactored and joined multiple test scripts into single body of code
- Created interactive demo for the client under extremely short deadlines
- Client received positive feedback and funding based on the demo script
- “Cythonized” most critical parts of the code to gain drastic performance improvements
- Suggested improvements for the further development

Trimble, Westminster, CO *Nov, 2016 – February, 2017*

- Assisted in hardware design during new product development cycle
- Designed multiple breakout boards, stepper motor driver board and fairly complex power supply board
- Worked closely with the lead mechanical engineer to meet tight mechanical constraints
- Created multiple mechanical models and renderings during the design process
- Worked closely with project manager and multiple engineers to refine system as a whole

JOWA, Littleton, MS *Nov, 2012 – September, 2016*

- Worked with the CEO to design Wireless Mesh Network system for the remote monitoring application
- Solely designed and debugged hardware for the system
- Designed python based software for the router running on embedded Linux machine
- Simultaneously worked on system backend and web based user interface
- Designed multi-OS GUI to preset network settings for the router

CIMA Systems, Loveland, CO *May, 2013 – June, 2016*

- Assisted in designing FPGA based Sonar System
- Worked on Verilog code base to implement main system functionality
- Worked on C++ driver for the MCU embedded on a FPGA to monitor and control main system functionality
- Designed python based GUI to test system hardware
- Designed mechanical plates and enclosure for the system
- Performed multiple IT tasks such as managing VM server and writing python based backup script

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Earth Science Systems, Wheat Ridge, CO *September – October, 2013*

- Assisted in Radar Hardware Design
- Worked closely with the CTO to refine RF capabilities of the unit
- Overseen PCB manufacturing house to comply with RF design specifications and standards

Solbrig Electronics, Broomfield, CO *October, 2010 – October, 2012*

- Worked closely with the Senior Contract Engineer and studied the art and the science of the contract engineering field
- Assisted in designing various hardware – Analog, Digital, Power, RF, MCU/FPGA/Linux based
- Wrote various software – C++, Verilog, Android app, Web Development
- Worked with multiple technologies – Bluetooth, Zigbee, USB, Ethernet and others
- Received invaluable professional, personal and interpersonal experiences

Embedded Design Engineer

Aerostream Communications, Golden, CO *2008 - 2010*

- Successfully completed 4 projects in a fast paste, multitask, small company environment
- Achieved product idea to working prototype in 9 months
- Created architecture for 4-channel SDR(Software Defined Radio) system spread out on up to 8 boards (for noise reduction) achieving most ergonomic design in tightest mechanical constrains
- Designed multi-channel RF board. Identifying gain and loss requirements, implementing very efficient design geared towards minimizing noise influence on the analog components
- Completed very dense DSP board design (2x4 inch 10-layer DSP card with 256-pin 400K Gate 1mm-pitch FPGA, 289-pin 0.5mm-pitch DSP, SDRAM, FLASH, NAND and USB)
- Investigated numerous RF and DSP components in order to balance performance and price
- Dramatically reduce cost and simplify design while maintaining best performance
- Oversaw board fabrication and assembly processes insuring highest quality standards

Electrical Engineer

Colorado Electronic Product Design, Boulder, CO *2006 - 2008*

- Successfully conducted advanced research and design in a wide variety of different fields and applications
- Solely designed and debugged code for the Digital Reading Service Receiver project. Code proved to be extremely reliable in the field. Successfully implemented on thousands of units
- Significant VHDL code contribution to the Digital Radio Kit Project including writing, debugging and testing. Final code was implemented on both Xilinx and Altera FPGAs
- Conducted testing of the Land Seismic Acquisition System. Discovered numerous ways to improve system efficiency that were successfully implemented
- Conquered detailed electronic assembly using soldering irons, hot air and IR machines.
- Perfected my assembly skills while creating prototypes, testing and modifying existing circuits

Engineering Intern

The Children's Hospital, Aurora, CO *Summer, 2006*

- Participated in constructing 1.45 million square foot nine floor hospital designed to accommodate 270 beds, 14 operating rooms, 2 cardiology surgical operating rooms and 9 minor surgical procedure suites
- Actively assisted and enthusiastically proposed numerous ideas in applying new technology during inspections and meetings
- Closely worked with Senior Engineers, organized and modified construction plans using AutoCAD as well as developed databases for the future service and maintenance using ArchiBus software
- Independently worked on power consumption estimation for the whole hospital

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EDUCATION

Erasmus Mundus Master Program in Embedded Computing Systems *August – December, 2011*
University of Kaiserslautern (TUK), Kaiserslautern, Germany
Norwegian University of Science and Technology, Trondheim, Norway

Embedded Systems Certificate *May, 2009*
University of Colorado at Boulder, CO

Bachelor of Science in Electrical Engineering *May, 2008*
University of Colorado at Boulder, CO

TECHNICAL SKILLS

- **Trilingual**: Perfect written/oral English and Russian, Intermediate German
- **Other Languages:** C, C++, Python, Java, Assembly, VHDL, Verilog, Basic, Linux Driver/Kernel development, UML
- Python Modules**:** PyQt, tkinter, pcapy, impacket, pyserial, bbfreeze, pyftpdlib, bottle, pymodbus, tornado, pyasn1, pysnmp, pycrypto, crontab, mysql, matplotlib, sphinx, pylint, pyreverse, twisted, uncompyle, zope, numpy, skipy and many more
- **Smart Phone development:** App and hardware development for Android and Apple systems
- **Script/GUI development** under Windows, Linux, Embedded Linux operating systems
- **Web-development**: HTML, CSS, Javascript, PHP, Python , AJAX, SQL, Web Sockets, JQuery, Flot
- **Version Control:** Git, GitHub, BitBucket, Subversion
- **Tools:** Eagle, Altium, PADs Layout and Schematic, Xilinx, Questasim, PSPICE, Multisim, Microwave Office, Electronic Workbench, SolidWorks, AutoCAD, MathLab, Microsoft Office Suite
- Experience in Schematic Capture, PCB Layout, Part Selection and BOM creation
- **Hardware:** TI MSP430, Freescale HCS08, Siemens C501, Atmel C51, Atmega328P, Atmega128RFA1, Atmel SAM D20, STM 32F2, Motorola MC68000 and 56300 (DSP), BlackFin 527C (DSP) Processors
- **FPGAs**: Xilinx Spartan 3, Spartan 5, Spartan 6, Virtex 5, Zynq and Altera Cyclone 3 FPGAs
- **Protocols:** SPI, I2C, RS232, PWM, Zigbee, Bluetooth, USB, Ethernet, and others
- **Network Protocols:** TCP, UDP, FTP, Modbus, SNMP as well as proprietary protocols
- **Interfaces:** SRAM, EEPROMs, RTCs, Digital and Analog Sensors (Temperature, Pressure, Humidity), Character and Graphical LCDs, PCI interface, PLL, RF mixers, Zigbee modem, AM/PM Transmitters/Receivers, TCP/IP PHY, ADC, DAC, LVDS, JTAG, Audio/Modem Codecs, Keypads, Switches, LEDs, DC Brush/Brushless/Stepper Motors, Hall Effect and Photo-interrupter switches
- Theoretical/Practical knowledge of DSP concepts, FIR and IIR filters, Signal Generation, Image Processing
- Design of Analog circuitry including Power, Amplifiers, Filters and RF
- **Other Skills:** Iron, Hot Air, Infrared Soldering and other assembly skills
- Extended Mechanical Design knowledge (Enclosure, Mold and Fixture designs in SolidWorks)
- Mechanical Prototyping skills including CNC Machining, 3D Printing and Metal Welding
- IT, server and virtual machine experience

PERSONAL

Citizenships: USA, Russia, StackOverflow, GitHub
Interests: Rock/Ice Climbing, Mountaineering, Mountain Biking, Ice Hockey, Telemark Skiing, Scuba Diving, Paragliding, Traveling, Personal Development, Entrepreneurship