

Alexander Stvolin Senior FPGA Engineer

alexander@stvolin.com

+375 29 888 90 58

26 Vera Horuzhey St.
Minsk, Belarus



18 years of my experience related to algorithms development and FPGA design for Oil and Gas industry. I did firmwares for number of In-Line Inspection tools (devices for non-destructive testing of pipelines), oil tank crawlers. In my current job I do FPGA design and manage software development.

Electronics, FPGA and Software Engineer

Falcon NT LLC

RnD company in Minsk, Belarus.

2020 – present

[ILI tool is a custom development so no website for this project](#)

Company hired me to perform secondary tasks. During the first year, I successfully completed a number of difficult tasks. Now I do most important and responsible work.

Responsibilities

- FPGA design (Verilog, Lattice ICE40, Intel(Altera) MAX10, Xilinx Zynq UltraScale+, iCEcube2, Quartus, Vivado, Vitis, Mentor Graphics HDL designer, ModelSim).
- Managing software development (Qt, C++, Python). I had a maximum of 4 junior C++ developers. I do functional program specifications, algorithm prototypes in Python, prepare input data samples, coding of algorithms specific for non-destructive testing and Oil and Gas industry, task management in Jira.
- Support schematics and PCB development. I choose digital chips for required performance and I do power consumption estimation (important in this industry because devices are battery powered).

Achievements

- First ultra-high resolution 3D MFL In-Line inspection tool (which was 100% new development) we delivered in 9 months. Average time for this development in other companies is about 2 - 4 years. After commercial experience client ordered building of second tool, for startups in this industry, this is a real achievement. First version of data analysis software we delivered in 7 months which is also very fast.
- I proposed new solution for eddy current sensors (a part of the tool). This job includes theoretical justification, working prototype, testing report, python software for performance demonstration. Now this result is used in the inspection tool.

Electronics and FPGA Design Engineer

LIN SCAN

In-Line Inspection and oil tank services company from UAE

2015 – 2020

linscaninspection.com

Responsibilities

- FPGA design (Verilog, Zynq-7000, Vivado, Vitis, ModelSim)
- Algorithms development. Prototyping Algorithms in Python, C# coding
- Support of old hardware. VHDL, XPS, SDK, ISE, MicroBlaze, Spartan 6

Achievements

- I participated in development of next generation of electronics. I did all my job on time
- For the support of old electronics, all modification requests were performed in a reasonable time. No failures or delays happened as result of my work

Senior FPGA Design Engineer

CTD «Diascan»

In-Line Inspection company from Russia

2004 – 2015

en.diascan.transneft.ru

I came as graduate and did some urgent FPGA design improvement. Company paid my education in Xilinx training center in Moscow and I had practice in R&D company in St. Petersburg. I started as a first FPGA designer in this company and we did a new generation of electronics. I was promoted to Senior engineer. I taught four extra FPGA Designers and hand over them parts of my work.

Achievements as Senior FPGA designer

- Before in this company, FPGA design was like magic that few can handle. With me it became ordinary process with predictable development time.

Achievements as FPGA designer

- I did all FPGA design for fist developed UT tool. I developed UT processing algorithm for this tool.
- I did FPGA design for Storage unit. A multi-terabyte industrial SSD made up of one hundred NAND flash chips was developed in 2009. In some tools it is in use up to now!
- Library for programmable state machines and a compiler

Professional development

Xilinx authorized training-partner
"Inline Group"

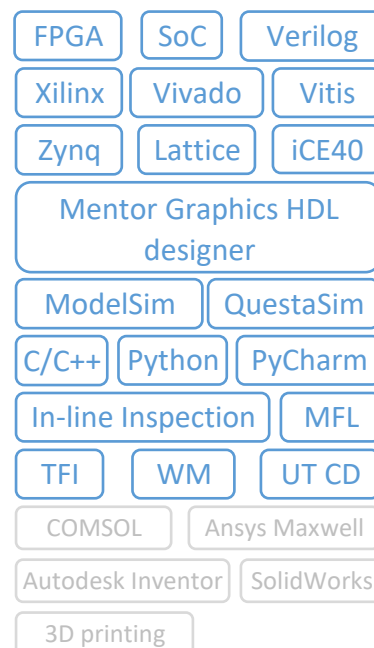
2008

- Designing of processor cores
- Advanced Features and Techniques of Embedded System Development

2006

- Embedded System Development
- Designing for Performance
- Advanced FPGA Implementation
- Fundamentals of FPGA
- Introduction to VHDL

Skills



Languages

English, Russian

Ryazan State Radio Engineering University www.rsreu.ru Ryazan, Russian Federation

1999 – 2004

Qualification: Engineer

Specialty: Wireless Communication Systems

Citizenship: Russia