

Dear Sir or Madam,

I have been creating various programs, hardware and software systems since 2010. I am very experienced in making connections with different devices and finding faults using Labview and making programs on it, you can see my programs videos and photos here: <https://zinviktor.wixsite.com/website>

I developed the software systems for testing and tuning MEMS (microelectromechanical systems) gauges <http://www.tmems.ru/index1.htm>, these are vacuum gauges, gas flow regulators, pressure sensors and so on from 2010 year. We had a problem with standart Modbus RTU Labview functions, it does not work fast due to the connection errors, but we need to read the gauge pressure every 80-100ms and I have made my own function, that had been worked very fast. Then I have made the program to make wafer geometry quality measurements, which used two sensors through RS-485 to measure the distance to the wafer from below and from above and two sensors to measure the position of the wafer which were made from computer USB optical mouses <https://www.micsensor.ru/ustanovka-klin-progiba>. The program had got a lot of mathematic: approximation, interpolation and so on <https://zinviktor.wixsite.com/website?pgid=k74nhdw2-1ba43f4d-3f82-4a03-8e41-ca6a5954c651>. Also, I developed the firmware and programmed microcontrollers Microchip dsPIC30 and PIC32, Arduino Nano for gauges.

Since 2002, I had my own local area network in a village near Zelenograd where I was born, I sold internet to other people and in 2007 there were 400 clients in it. First I used proxy server at Windows XP, but it was slow and worked only through one port, clients were very angry and in 2004 I installed Windows Server 2003 and setup a program which worked though NAT (Traffic Inspector), it was fast. Although there were too many problems with network switches. I used very simple unmanaged switches. Also I had got a very big experience in network troubleshooting and computer service, finding faults, assembling and setuping various programs.

Later, in 2012 I worked in Comptek, I was responsible for Fluke Networks products, I led webinars and presentations on Comptek forums. Also I was responsible for the technical part of the product. Fluke networks provides the devices to capture packets (Time machine and ClearSight) in the LAN through it is special switches and see inside them as a Wireshark and the general thing that we could see all the packet tracer info. One our big mobile operator has bought Huawei devices and had a problem transferring packets through Huawei devices from Moscow to other cities, so we helped them to find their problems reasons.

Since 2016 I have been creating programs and writing drivers for communication with devices (servo drives, chillers, generators, temperature controllers, MFCs and so on) for ICPDAS PLCs (<http://www.nppesto.ru/products/ustanovka-travleniya-xors-200a/>) in the ISAGRAF (Rockwell Automation) environment IEC 61131-3 (FBD, LD, ST, SFC), for controlling a vacuum machine also I have selected controlling components for this machine, launched and debugged it. Generally I used SFC diagrams 40%, FBD 50%, LD 5% and ST 5%. The technological process is being run and controlled by the PLC. With the help of Labview It is comfortable to make connections with other devices through RS-232/422/485 and Ethernet, first I made a small test program in Labview to know all the commands for devices and then I did it at SFC diagrams. In Isagraf there is not so big function block library such as at TwinCAT, Codesys or TIA and I had a problem with converting FLOAT to DINT and vice versa registers because Bosch Rexroth used little-endian data format and I had to make programs in FBD to convert FLOAT to bits and then calculate exponent and mantissa and so on, but I had done it. Before it, we had a problem with ProfiBUS but fortunately we found the ADFweb gateway to convert Modbus RTU Slave to ProfiBUS Master. Also we used ADFweb gateway to convert Modbus TCP Slave to DeviceNET Master.

After connecting all the electrical cables to the devices at the machine I found faults on it. I am experienced in DIO and AIO fault finding. ICPDAS analog modules have got problems with common electrical ground and analog measurements were not correct, we have connected everything according to ICPDAS recommendations, but it did not work properly and I used oscilloscope to find some connection variants that worked well.

I also participated in launching one laser machine for marking wafers (200mm) and 5 vacuum machines at the Angstrom-T (Zelenograd) plant with other engineers. First we checked all the systems and connections: optical connections, electrical, vacuum, optical (laser), ventilation, coolant and so on. After, we checked each channel at the program and then tried auto mode and made corrections. We had a problem with vacuum machines. There were not special devices to read a cassette tag on each vacuum machine and the main program did not work. I have sniffed a similar RS-232 Protocol at another machine and made a program in Labview which sent answers to our vacuum machine so the main program made receipt successfully.

Also I have got my controller Siemens S7-1200 and TIA V13 I had a little practice in it with making Modbus TCP connection to Labview program.

In 2017 I have made the Labview program for connecting to Yobit website (Cryptocurrency exchange) it used HTTP protocol Get/Post. I saw bid ask and could buy and sell positions. I used my private API key.

In 2018 I have selected computer parts and assembled computers and server for our company Design department. Also I selected, installed and set up the Software for electronic document management (1C APPIUS) with SQL. I have connected all the computers to the LAN.

Since 2015 I had lots of Labview programming and modernization works in Zelenograd at small companies.

From 2009 to 2012, I had learnt Business English at the Russian Foreign Trade Academy, RFTA, VAVT.

Now I am learning TWINCAT lessons by myself and starting to learn Codesys, we are planning to migrate to such a controllers with EtherCAT interface. It would be Beckhoff or Berghof-Automation due to the price-quality.

Yours faithfully,

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