**Stanislav Rumega**

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**summary**

Experienced in using National Instruments LabVIEW implementing systems for manufacturing, factory automation, motion control, machine vision, human machine interfaces (HMI), automated test & measurement equipment / systems (ATE), data acquisition (DAQ), storing data in database (ETL) and reporting (Microsoft SQL Server Reporting Services), communicating with PLCs and industrial networking;

**qualifications**

* *National Instruments LabVIEW* expertise and contributions to the developers’ community:
* 15+ years of LabVIEW experience;
* Developed numerous systems, very diverse in purpose, functionality, and hardware used;
* NI Week Best Application Contest Winner in R&D/Lab Automation Category, 2003;
* NI Certified LabVIEW Developer, 2003, 2017 (current);
* NI Certified LabVIEW Architect, 2005 (one of only 52 in the world at that time);
* Developed EDQSM and LabHSM ([http://www.labhsm.com](http://www.labhsm.com/)) toolkits long before NI’s Statecharts and Actor Framework to implement the same concepts and paradigms;
* Created the PMS Assistant utility for LabVIEW developers interested in exploring VI Scripting features before they were documented and made publicly available;
* Updated the famous Tunnel Wiring Wizard utility for LabVIEW 8.
* *SQL (Transact-SQL, Microsoft SQL Server)*:
* Set up and administered MS SQL Server databases, including replication between overseas and local servers;
* Utilized SQL in station software to facilitate storing the collected data generated by multiple test stations directly into a database;
* Designed web-based reports with MS SQL Server Reporting Services, which required extensive use of SQL.
* *Other Languages used*: C/C++, Python, Visual Basic, Motion controllers’ proprietary languages (AcroBasic, Galil, Eason Basic, etc.). Previous exposure to even more various languages and development environments, i.e. FoxPro, Java, Maple, Think & Do!, Steeplechase, HTML, SPARC Assembly, etc. guarantees proved ability to quickly learn unfamiliar and new systems and languages to stay ahead of the technology curve;
* *Motion Controllers*: GE Fanuc, National Instruments, Acroloop, Galil, Yaskawa, Indramat;
* *DAQ, HMI, I/O, and Control Hardware*: National Instruments DAQ (PXI, PCI, cRIO, and FieldPoint); Eason; Koyo (Direct Logic, PLCDirect, Automationdirect.com); Advantech, Cimrex; Allen Bradley; Comtrol (Rocketport); etc.
* *Networking, inter application and inter process communication (IPC)*: GPIB, Ethernet, peer-to-peer (RS-232, RS-485), USB, OPC, regular DLLs, ActiveX, .NET, UDP, TCP;
* Fluent in English and Russian.

**experience**

**Senior Staff Engineer, 2008 – 2016**

# Microvision, Inc., Redmond, WA (<http://www.microvision.com>)

* Selected hardware and developed software (in LabVIEW) for various engineering and production test stations for microelectromechanical systems (MEMS) and devices based on them: barcode scanners and miniature (a.k.a. “pico”) video projectors, communicating with different off-the-shelf and custom data acquisition and control electronics and instruments, cameras, motion controllers, environmental chambers, etc. via GPIB, serial, PCI, PXI, USB. The test stations deployed to the production lines have been critical to significant volume gains with higher yield, which had a positive impact on top line revenue and gross margin.
* Latest project: Functional Test Station for Microelectromechanical Systems (MEMS). Equipment: NI PXIe-1073 5-Slot 3U PXI Express Chassis (with PCIe interface card), NI PXI-4065 PXI DMM, NI PXI-2501 Switch, NI PXIe-6356 Simultaneous X Series Data Acquisition Card, NI PXI 5402 Signal Generator, NI USB 6008 Multifunction Input/output Cards, NI USB-TC01 Thermocouple Measurement Device, Edmunds Optics USB Camera, red semiconductor laser with a DC voltage analog input for brightness adjustment, Mini ATX form factor Windows PC, custom signal conditioning electronics board and fixture.
* Set up and managed a production test Microsoft SQL Server database and designed web-based database reports using SQL Server Reporting Services supporting the company’s ability to make well informed decisions on improving quality and yield.

**Programmer Analyst, 2003 – 2008**

# Target Labs, Inc., Vienna, VA (<http://www.targetlabs.net>)

Successfully completed numerous automation, control, data acquisition and test projects. Examples:

* LabVIEW software for testing IP backhauled base transceiver stations for cellular networks. Equipment: NI PXI-8106 PC, NI-PXI 5671 RF vector signal generator and NI-PXI 5661 RF vector signal analyzer, NI PXI digital and analog I/O cards, GPIB controlled multimeter, Linksys router.
* Test system for automatic high power (up to 38 kV/800A) circuit reclosers. Equipment: 1000A GPIB controlled current source, NI DAQ card, Koyo PLC and I/O.
* LabVIEW application for testing piezoelectric crystals (impedance, resonant frequency, capacitance, dissipation, etc.) Equipment: HP/Agilent 4194A Impedance/Gain-phase analyzer (via GPIB).
* Completed the development of a color measurement and correction system for Lexmark inkjet cartridges. Equipment: X-Rite color photometer, DVT camera (for OCR), custom Lexmark boards (USB to Serial connections), digital I/O (via USB).
* Performed research and LabVIEW application development for the Concentration & BTU Sensor project at Gas Technology Institute, Des Plaines, IL ([*http://www.gastechnology.org*](http://www.gastechnology.org)): implemented real-time natural gas mixtures characterization based on near infrared absorption spectroscopic data utilizing several multivariate calibration (machine learning) methods. Equipment: NI Fieldpoint I/O. MKS MFCs, Roper Scientific Liquid-Nitrogen cooled spectroscopic camera, Acton Research and Hamamatsu Spectrometers

**education**

**Master of Arts in Physics**

*Western Michigan University, Kalamazoo, Michigan*

**Project:**

Developed a control and data acquisition program in LabVIEW for an electron spectrometer system in the WMU Accelerator Laboratory. The project involved controlling and retrieving data from devices on a CAMAC crate as well as GPIB (IEEE-488) instruments connected to the system via a GPIB to CAMAC interface. A computer communicated with the system via a serial (RS-232) port on the crate controller.

**Awards:** Dean's List; David Carley Memorial Award; Department Award for Graduate Student Teaching Effectiveness.

**Activities:** Graduate Student Advisory Committee, Member; Association of Information Technology Professionals, WMU Student Chapter.

**training**

**National Instruments (2016):** LabVIEW Core 1, LabVIEW Core 1, LabVIEW Core 3, Advanced Architectures in LabVIEW, Object-Oriented Design and Programming in LabVIEW, LabVIEW Real-Time 1, LabVIEW Real-Time 2, LabVIEW FPGA.

**Microsoft Professional Program in Data Science (2016-Current):** Data Science Orientation, Querying Data with Transact-SQL, Analyzing and Visualizing Data with Power BI, Statistical Thinking for Data Science and Analytics, Introduction to Python for Data Science, Data Science Essentials

**publications**

* Rumega, S., 2005. Using Hierarchical State Machines in LabVIEW. *LabVIEW Technical Resource, Volume 12, Number 3.*
* Korenev, S., Korenev, I., Rumega, S., Grossman, L., 2003. Real-time Measurement and Monitoring of Absorbed Dose for Electron Beams. *Radiation Physics and Chemistry, 71 (2004) pp. 317-322*
* Korenev, S., Korenev, I., Rumega, S., Grossman, L., 2003. Developing Real-Time Measurements for Radiation Technologies with LabVIEW and PXI Platform. *NI Week 2003 Proceedings.* Paper contest WINNER in the R&D/Lab Automation Category.