Sergey Petrov
Senior Embedded Software engineer

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EXPERIENCE

Senior SW engineer
GenCell
📅 02/2013 – Present   📍 Petah Tikva, Israel

Lead and developed the full lifecycle of software, including architecture, design, implementation, and testing, for critical systems such as alkaline fuel cell generators, ammonium cracking, and laboratory test benches.

- Developed and implemented embedded, drivers, logics and software solutions using C/C++ and C# within Microsoft Visual Studio, Borland, GCC, QT, SVN, Git.
- Designed and integrated industrial automation solutions utilizing ICPDAS PLCs, defined and implemented "robust control algorithms, HMIs, and communication protocols (Ethernet, RS232, RS485) using C/C++.
- Defined and developed IoT solutions for remote monitoring, control, and data acquisition.
- Defined comprehensive database structures for data management and analysis based SQL, C#, and WEB.

Software engineer
HP Scitex
📅 11/2009 – 12/2012   📍 Netanya, Israel

Developed diagnostic projects with UI/Forms for large format printers.
- Utilized C++ and C# in Microsoft Visual Studio, SVN and Visio.
- Experienced in industrial communication protocols, such as RS232, RS485, CAN, MODBUS, and Ethernet based on various PLCs including PILZ, Shinko, and B&R.

Embedded Software engineer
Essence Security International Ltd
📅 2005 – 2009   📍 Herzliya, Israel

Developed a wide range of embedded systems, including specialized sensors, RF output modules, remote control systems, and automated test programs. Led group of students.
- Designed and implemented hardware drivers, and communication protocols RF, RS232, USB, SPI, I2C, and UART in C/C++ for embedded systems.
- Developed of SW for microcontrollers, Microchip PIC, TI, and ARM.
- Development tools: IAR, MPLAB, Hi-Tech for PIC, and VSS.
- Proficient in debugging and validation techniques, tools: JTAG, ICP-1, ICD-2, PICkit2, ICE2000, oscilloscopes, spectrum and logic analyzers, DVMs.

Embedded Software engineer and project leader
ROTEM Computerized Controllers Ltd
📅 1999-2005   📍 Petah Tikva, Israel

Developed specialized control algorithms and implemented of the full lifecycle of software on C/C++ for microcontrollers Intel 8051, Philips XA, LPC, MOTOROLA for automation in agricultural engineering domain.
- Full responsibility for controller SW, drivers, and HMI.
- Developed and integrated communication protocols for seamless data exchange and system integration.

EDUCATION

M.Sc.
National Technical University "Kharkiv Polytechnic Institute"
📅 1990-1996   📍 Kharkov, Ukraine

ENGINEERING-&-PHYSICAL FACULTY; Department for control systems and processes in aerospace; Specialty: Applied Mathematics & Informatics

Electronics-technician
Computer and Technology College of the National Technical University
📅 1986-1990   📍 Kharkov, Ukraine

Specialty: Robotics (Graduated with Honor)

SUMMARY

Senior SW Engineer in embedded systems, automation systems, SW architect, and control algorithmes development.

Deep understanding in electronic and mechanics.

Proven development of multidisciplinary cutting-edge automation systems.

Strong leadership in managing SW teams and contractors.

SKILLS

C/C++, C#

Windows, Bare metal, Linux, FreeRTOS, macOS, MiniOS7, DOS

Microchip PIC, TI, ARM7 CORTEX M3, STM32, Intel 8051, 80186

Embedded, RS-232, RS-485, Ethernet, SPI, I2C, UART ,Wireless, RF, USB, CAN, MODBUS

Microsoft Visual Studio, Visual Studio Code, GCC/G++, SVN, Git, QT, CODESYS, Borland, IAR, MPLAB, NetBeans IDE, VSS Visual SourceSafe

Oscilloscope, Spectrum and Logic analysers, DVM, Pulse generator

ICPDAS, Weidmüller, PILZ, Shinko, B&R, WAGO

KEY ACHIEVEMENTS

- **Successfully conceived, designed, and implemented numerous complex SW projects.**
- **Successfully led and mentored a team of SW developers and numerous contractors.**

LANGUAGES

Hebrew   ●●●●○
English   ●●●●○
German   ●●●○○
Russian   ●●●●●