

## SERGEY BAIGUDIN

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Date of birthday: April 1, 1982  
Children: son



## OBJECTIVE

Architect, Team Lead Developer

## EDUCATION

**1999 — 2004 — The Bonch-Bruevich Saint Petersburg State University of Telecommunications**  
Saint Petersburg, Russian, [www.sut.ru/eng](http://www.sut.ru/eng)

Department: Radio Reception, Broadcasting and TV  
Specialty: Engineer

## EXPERIENCE

**JSC "Kama"**  
Saint Petersburg, Russia, [atom.auto](http://atom.auto)

*September 2022 — till present*

Position: Information Systems Architect

Developing of system software for in-vehicle infotainment (IVI) system of ATOM electric vehicle.

- Develop architecture of in-vehicle infotainment (IVI) system of ATOM electric vehicle.
- Participated in nomination of IVI supplier and evaluation of technical risks.
- Develop software architecture within functional safety of road vehicles ISO 26262.
- Established and managed system software development team.
- Conducted interviews for C++ and Embedded developer positions.
- Established software developing processes and guidelines.
- Set and agreed technical requirements for suppliers to develop software.
- Built and studied Kaspersky OS for IVI software development.
- Built FreeRTOS, analyzed and prototyped applicability of usage on ST STM32F103x Cortex-M3 MCU.

- Built Automotive Grade Linux (AGL), analyzed and prototyped applicability of usage on NXP iMX8x Cortex-A53 CPU.

**DXC Luxoft**

**Saint Petersburg, Russia, [www.dxc.com](http://www.dxc.com), [www.luxoft.com](http://www.luxoft.com)**

*August 2018 — August 2022*

Department: Automotive

Position: Team Lead, Lead C/C++ Developer

- Participated in Volkswagen iSSW project.
  - ✓ Led and inspired Development Quality team.
  - ✓ Developed software in scope of ASIPCE.
  - ✓ Planned and controlled execution of Scrum sprints, quarter activities.
  - ✓ Managed tasks and their definitions of done.
  - ✓ Did code review, and tasks review.
  - ✓ Communicated with the customer, presented bi-weekly achievements.
  - ✓ Prepared and presented technical proposals to the customer, evaluated their risks, and efforts.
  - ✓ Planned short-, medium-, long-term perspectives for the development stream.
  - ✓ Prepared quality guidelines – C++ Coding Guidelines, Git workflow, Static Code Analysis approach, Unit Tests development, ASPICE usage.
  - ✓ Conducted interviews for C/C++ developer positions, participated in definition of a check list and a skill matrix for the developers of VAG projects of the company.
  - ✓ Organized communication across project teams – Testers, DevOps, Architecture teams.
  - ✓ Interacted with the project management to setup goals and direction of the team.
- Participated in AUTOSAR Adaptive Platform consortium.
  - ✓ Was Code Owner of Function Clusters of Execution Management & OS, and Identity and Access Management of AUTOSAR Adaptive Reference Platform.
  - ✓ Participated in AUTOSAR Central Coding Team and Execution Management & OS working groups.
  - ✓ Developed AUTOSAR Adaptive Platform Demonstrator in scope of Execution Management & OS requirements.
  - ✓ Developed requirements and specification of Execution Management & OS functional cluster.
- Participated in BMW Body R&D project.
  - ✓ Implemented supporting of FreeRTOS for TI AM65x/DRA80xM Cortex-R5F MCU based on TI Jacinto 7 SoC.
  - ✓ Developed and integrated low-level drivers for FreeRTOS.

- ✓ Integrated TCP/IP stack for FreeRTOS.
- ✓ Developed a proposal of program design for the customer target system.

**Baigudin Software**  
**Saint Petersburg, Russia, [www.baigudin.software/en](http://www.baigudin.software/en)**

*July 2014 — occasionally in process*

Position: Founder, Software Developer

Designing, implementing, and maintenance software solutions of the project.

- EOOS is Embedded Object Operating System – an object-oriented real-time operating system (RTOS) for critical embedded systems based on single or multi-core microprocessors.
  - ✓ Reserved copyrights in Rospatent.
  - ✓ Designed an architecture of the operating system.
  - ✓ Implemented the operating system kernel and its services.
  - ✓ Implemented drivers of the operating system.
  - ✓ Implemented API of the operating system.
  - ✓ Implemented the template class library.
  - ✓ Analyzed MISRA C++ rules violations.
- EOOS for POSIX and Win32 API – C++ libraries for Unix and Windows OS families for developing portable applications based on the EOOS API.
  - ✓ Designed and implemented the libraries.
  - ✓ Developed unit tests the libraries.
  - ✓ Elaborated an approach for developing portable applications for RTOS, Unix and Windows OS families.
- EOOS for FreeRTOS API – C++ libraries for real-time OS FreeRTOS.
  - ✓ Designed and implemented the libraries.
  - ✓ Implemented supporting ST STM32F103x MCUs.
  - ✓ Implemented drivers for ST STM32F103x MCUs.
- BOOS Core – an object-oriented real-time operating kernel for embedded microprocessor-based systems.
  - ✓ Designed an architecture of the operating kernel.
  - ✓ Implemented the kernel and its services.
  - ✓ Implemented user and system libraries.
  - ✓ Implemented drivers of hardware modules for the kernel.
  - ✓ Implemented TI TMS320C64x+ DSPs, TI TMS320C64x DSPs, TI TMS320C28x DSCs, TI AM18x ARM MPU processors supporting.
  - ✓ Finalist of Kaspersky Start 2017 accelerating program.
- BOOS Microbe Core – real-time operating kernel for critical embedded systems based on 8-bit microprocessors.

- ✓ Designed an architecture of the operating kernel.
- ✓ Implemented the kernel and its services.
- ✓ Implemented drivers of hardware modules for the kernel.
- ✓ Implemented SL C8051F90x MCUs processors supporting.
- ✓ Analyzed MISRA C rules violations.
- Implemented a Pulse-width modulator (PWM) driver for TI TMS320C28x3x DSCs.
- Implemented an Analog-to-digital converter (ADC) driver for TI TMS320C28x3x DSCs.

**The Fort Regional Centre for Information Protection  
Saint Petersburg, Russia, [www.rczifort.ru/en](http://www.rczifort.ru/en)**

*May 2008 — August 2018*

Position: Chief of Laboratory of System Software Development, Chief of Department of Operating System Development, Senior Developer, Developer

Developing embedded software solutions for cryptographically protecting computer network information.

- Managed laboratory of system software and operating systems development.
- Analyzed technical requirements of customers.
- Developed technical and commercial proposals for customers.
- Implemented FAT32/16 file systems.
- Implemented USB device drivers of mass-storage, printer, keyboard, and mouse devices.
- Implemented a USB bus driver.
- Implemented USB host controller drivers of Philips ISP 176x, and NEC  $\mu$ dp720150 chips.
- Implemented LCD displays, keyboards, chip card, and RNG device drivers.
- Implemented an operating system kernel for TI AM1808 ARM microcontroller.
- Implemented multi-processors and multi-threads software for booting operating system, testing data integrity, and controlling hardware environment.
- Implemented cryptographic algorithms in TI TMS320C64x assembler programming language.
- Implemented software tests for debugging hardware.
- Designed specialized inter-board exchange communication protocols.

**Syntacs Web Studio  
Saint Petersburg, Russia, [www.syntacs.ru](http://www.syntacs.ru)**

*December 2010 — June 2014*

Position: Technical Director

Developing Internet solutions.

- Implemented Content Manager System for tasks of the studio.
- Implemented PHP DOM Builder library for generating valid HTML documents and those operating.
- Implemented commercial web sites.
- Implemented MySQL database structures.
- Implemented web animation algorithms.
- Implemented user interfaces included asynchronous algorithms.
- Implemented W3C validated HTML markup of web pages.
- Operated with customers.

**NPO Impuls**  
**Saint Petersburg, Russia, [www.npo-impuls.ru](http://www.npo-impuls.ru)**

*November 2006 — May 2008*

Position: Engineer

- Implemented software in TI TMS320c50 assembler for operating a multiplexed channel controller.
- Implemented software procedures in TI TMS320c25 assembler for embedded systems.

**Russian Army**

*October 2004 — October 2006*

Position: Senior Military Officer

**NPO Impuls**  
**Saint Petersburg, Russia, [www.npo-impuls.ru](http://www.npo-impuls.ru)**

*January 2004 — September 2004*

Position: Engineer, Internship

- Implemented software procedures in TI TMS320c25 assembler for embedded systems.
- Had an internship.

## SKILLS

- **Programming languages:** C/C++, Assembler, Python, PHP, JavaScript, MySQL, Java, Xtend.
- **Web expertise:** JSON, XML, HTML, CSS, jQuery, AJAX.
- **Automotive:** AUTOSAR Adaptive and Classic, MISRA C/C++, ASPICE, ISO-26262.

- **IDE:** VS Code, CCStudio, IAR Workbench, Eclipse, PCAD.
- **Tools:** Git, Svn, CMake, Make, MSBuild, Maven, POM, Yocto, BitBake.
- **Processors:** ST STM32F103x, NXP iMX8x, TI AM65x/DRA80xM Jacinto 7 SoC, TI 66AK2x (TMS320C66x DSP + ARM Cortex-A15 MPU Cores), TI TMS320C6000, TI TMS320C2000, TI AM18x ARM, SL C8051F90x, ATMEL SAMA5D3x, ST STR91xFA, TI TMS320c5x.
- **System buses:** USB, Ethernet, RGMII, GMII, MII, MDIO, RapidIO, ISA, I2C, 1-wire, RS-232.
- **Protocols:** Ethernet, IP, TCP, UDP, Socket.
- **Other:** work with oscilloscope, read and analyze electric circuits.
- **Languages:** Native Russian, Advanced English (prepared for the FCE exam).