



Atanas Rusev

Senior Software Engineer C/C++
Born: 4 Nov. 1983
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EU Citizenship

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Address:

To be associated with progressive organizations which can provide me with a dynamic work atmosphere to use and develop further my skills as a Senior C/C++ SW Professional and develop my aptitude to further the organization's goal and objectives.

MAIN PROJECTS – short listing

- New Sorting algorithm with full scale comparison with multiple existing algorithms – C/C++
- Integrating open source libraries and developing custom algorithms for Turbo Encoding and YUV video streams manipulation
- Windows PC SW Architecture Redesign, Data Encryption, ISO27001 production procedure development
- Make/GCC/ Eclipse Build System and Code Quality LDRA toolchain, integration and test, python scripts and Jenkins CI
- Intelligent Seat Heating – development of algorithm and full ASPICE documentation
- ADAS System - functional Testing for Valeo, with full requirements validation and review
- Ticket burndown before SOP for four Veoneer customers (Ford, Peugeot, Renault, Audi)
- Family of Door Controllers for Volvo – Developer, Technical TL for Data and Variant Management
- Family of Instrument Panel Clusters for General Motors – Alert Manager, Integrator
- Nokia CMOS imaging camera SW on dedicated Texas Instruments DSP – sensor and capture drivers.

SKILLS

C, C++, Python, Make, GCC, MSVC, Clang, QtCreator, GIT, SVN, Cross Compilation, Debugging

Embedded, RTOS, Bare Metal, Low level Drivers, Framework development, Custom Algorithms

Libraries integration and testing

Customer Communication, Documentation, Manuals, Requirements, Training

Scrum, Agile, V-Model, Functional, SIL, PIL and HIL Testing

ACHIEVEMENTS

- Written my own stable sorting algorithm, reached improvements of over 2 times compared to standard STL sort and other implementations
- In multiple projects written custom max-efficiency algorithms with validation
- Writing [articles](#) for SW development and management (total over 150 pages on my website, now over 12 articles), including for Free and Open Source SW, [GitHub projects](#)
- Started learning German at age 29, now speaking
- Performed training for newcomers in second part of ADAS System project
- Promoted to Function responsible for Data and Variant Manager for Volvo Door ECUs
- Promoted to SW Integrator during Instrument Panel cluster project
- Promoted to Senior TL in 2008 for Nokia CMOS imaging SW, responsible for sensor driver team

WORK EXPERIENCE – MAIN PROJECTS

July 2020 - until now

Senior Algorithms SW Engineer with C/C++

Huawei Munich Research Centre

Main tasks:

- OpenCV / DFT / IDFT – development of new Eulerian Colour Magnification algorithm for video Y-channel data encoding, decoding and processing
- Turbo encoding and decoding development based on AFF3CT open source framework
- Integration of libraries, measuring performance, developing custom algorithms

Feb. 2020 - until now

Senior SW Engineer with C/C++

Triple Helix LLC, Sofia, Bulgaria

Main tasks:

- Installation and setup of Raspberry Pi4B with 7 inch capacitive touchscreen with full documentation
- Development of new stable sort algorithm outperforming many common algorithms over 2 times, writing full documentation, open source project

Feb. 2019 – Oct 2019 **Senior Automotive SW Engineer with C/C++**

Veoneer GmbH, Munich, Germany

Main tasks:

- Data Encryption development – AES128 bit and custom data encr./decr.
- Windows PC SW – Development of CPP11 Thread Pool, Architecture redesign
- ISO270001 Information Security Management
- Custom build system development – Make / GCC / Eclipse, Python, CI with Jenkins

April 2018 – Sept. 2018 **Senior Automotive Embedded SW Engineer – Seat Heating**

Behr-Hella Thermocontrol GmbH, Lippstad, Germany

Main tasks:

Development of prototype algorithm for intelligent Seat Heating for SEAT with C. Full definition of interfaces. Main customer contact. Requirements validation and review. Development of complete ASPICE documentation. Agile based.

April 2015 – April 2017 **Senior Automotive C++ SW Engineer –
Laserscanner ADAS Fusion system**

Valeo GmbH, Stuttgart, Germany

Main tasks:

Technical TL for functional SW testing. Establishment of build tool chain and process for Requirements validation, task estimations, writing procedures and HowTos. Training of newcomers. Development of Functional SW Tests of multiple C++11 based projects. Prove against requirements. Full validation of user cases. Validation of dynamic object classification and trigonometric approximation of lines. Python dev. Scrum based.

Dec. 2014 – Feb 2018 **Senior Automotive Embedded SW Engineer –
Parking Assistance 4 short projects**

Valeo GmbH, Stuttgart, Germany

Main tasks:

Ticket burndown before Start Of Production. Full investigation of issues, prove against requirements, PIL testing, CANoe simulation, Debugging (WinIdea, Windriver, Greenhills, iSystems debuggers), simulation of parking scenarios.

June 2012 – Sept. 2014 **Senior Automotive Embedded SW Engineer –
Family of Volvo Door Controller Units**

Kostal GmbH, Dortmund, Germany

Main tasks:

Technical TL for Data and Variant Management of an RTOS ECU. Setup of Interfaces in Autosar and custom SW development. Writing of internal data generators definition. Integration of modules. Writing full ASPICE documentation. Debugging, requirements validation and analysis. ARXML and CAPL development. PIL and SIL testing. Data retainment strategy at voltage drop, calibration parameters management. Integration of drivers and development of wrappers for them to interface OS interfaces. Python development. Agile based.

May 2010 – June 2012 **Senior Automotive Embedded SW Engineer –
Family of Dashboards for General Motors**

Johnson Controls Inc., Sofia, Bulgaria

Main tasks:

Development of C++ API library full automated testing. Requirements analysis, validation and writing of internal specifications. Development of multithreading application for alert management for 480 alerts from 16 classes, including full infotainment system monitoring. Promoted to SW integrator. Responsible for release validation, preparation of customer reports, integration report, bug reports and full release documentation, Agile based.

Dec 2009 – May 2010 **Senior Embedded SW Engineer – C/C++/Python**

Antilope Audio Ltd.

Main tasks:

USB driver debug and validation for RTOS device. Development of Python based GUI SW. Development of MAC (Apple) based release of the SW. Full development of installers.

Dec 2006 – Sept. 2009 **Senior Embedded SW Engineer – C – Nokia Camera Imaging**

Multimedia Solutions Ltd.

Main tasks:

Test Team management. Writing testing Scripts. New CMOS image sensors integration, driver development, debugging of code with Texas Instruments Code Composer Studio. MSVC and makefiles development. Writing Capture drivers. Writing Manuals. Development of full automated testing and validation application of sensor drivers. Responsible for customer contact. Tutoring junior developers. RTOS OS development of state machines for data processing. Evaluation of CPU load and other RTOS characteristics.

EDUCATION

2002 – 2006	Bachelor - Electronics, profile Embedded Devices
	Technical University of Sofia, Bulgaria

2006 – 2009	Master - Electronics, profile Embedded Devices
	Technical University of Sofia, Bulgaria

LANGUAGES

English Fluent
German C1
Spanish B2
Bulgarian native