

PROFILE – Inderjit Singh

I have a deep passion for development of embedded systems. Especially systems with limited resources. The closer the development is to hardware the better.

My background has mainly been in focus towards development within embedded systems for technologies related to space, medical, automotive and telecommunication. These systems have in majority been within the requirements of real-time and safety critical system constraints.

I have been involved in embedded system development for the past 12 years and currently consult as senior embedded engineer.



TITLE	Senior Embedded Engineer	
BORN	1975	
SPECIALISATION	System Design and Software Development for real-time and safety critical embedded systems.	
EDUCATION	M.Sc. Space Science and Technology <i>Luleå Technical University, Kiruna, Sweden</i> <i>University of Würzburg, Germany</i> <i>Czech Technical University, Prague, Czech Republic</i>	2007
COURSES	RTEMS BSP and API <i>Embedded Brains</i>	2011
	Project Management and Software Development <i>Learning Tree</i>	2009
	Linux Device Drivers <i>ENEA</i>	2008
LANGUAGES	Swedish, English, Spanish, French, Punjabi, Hindi	
LEUISURE	Badminton, Ultimate frisbee, Yoga	
TECHNICAL QAULIFICATION		
LANGUAGES	C, C++, Python, Bash, Java, Matlab, OBJ-C etc.	
PLATFORMS	Bare-Metal, Linux, Linux-RT, RTEMS, FreeRTOS, Yocto	
FRAMEWORKS	LWIP, MedTLS, GTK, QT4, Cocoa, iOS, Android, OpenCL, SOIS (Space On-board Interface Service Area).	
ARCHITECTURES	ARM Cortex-Mx, STM32x, OpenRisc, Leon2, x86, PowerPC etc.	
DRIVERS	Spacewire, Flash memory, mass memory, SPI, UART, GPIO etc.	
COMMUNICATION	Zigbee, Bluetooth, BLE, WiFi etc.	
PROTOCOLS	RMAP, PUS, UDP, TCP/IP, WebSocket, FASTCGI etc.	
FRAMEWORKS	LWIP, MedTLS, GTK, QT4, Cocoa, iOS, Android, OpenCL, SOIS (Space On-board Interface Service Area).	
TOOLS	Git, SVN, Cross-dev, Make, GNU tools, GDB, CppCheck, Atmel Studio, Keil uVision, J-Link, Atmel-ICE, CUnit, JIRA, Bugzilla	
EMULATION	QEMU, VirtualBox	
SIMULATION	Matlab/Simulink, Mosaic, EuroSim, TSIM	
STANDARDS	NMEA-0183, BAMS, OCPP 1.6, 2.0, Misra-C, ECSS-E-ST-40C	

EARLIER EMPLOYMENTS

2017-06-2020-12	<p>Evidente ES EAST AB Consulting on various software development projects on embedded systems for marine, automotive and medical industries.</p> <p><i>Role:</i> Senior Embedded Engineer <i>Keywords:</i> Freescale i.mx6;27;51, ARM Cortex-M0;M4;M7, ATMEL SAM, STM32Fx, DA14583, Phy KSZ8081/KSZ8863, J-Link, Atmel-ICE, C, C++, Bash, Python, Java, CppCheck, Yocto, UDP, TCP/IP, BLE, TLS1.2 LWIP, MbedTLS, Git, SVN, NMEA-0183, BAMS, OCPP, Misra-C, JIRA, Digital.ai Agility</p>
2015-2017	<p>ÅAC Microtec AB Real-time based software development for unmanned spacecraft. Responsible for developing BSP software for RTEMS RTOS as well as for mission-based software on On-Board Computer OBC.</p> <p><i>Role:</i> Senior Software Engineer <i>Keywords:</i> OpenRISC, Bare-Metal, C, C++, Make, GDB, GNU-tools, Python, Bash, RTEMS, Linux, Spacewire, mass memory, GPIO, UART, OBC software, Telecommand and Telemetry data handling based on CCSDS standard, Ethernet, WiFi, Git, SVN</p>
2013-2015	<p>Sylog Sverige AB Consulting in various embedded projects for telecommunication and space industry.</p> <p><i>Role:</i> Software Engineer <i>Keywords:</i> x86, OpenRISC, Linux, Linux kernel configuration and patching, Bare-Metal, C, C++, Python, Bash, System flash, Spacewire, Mass memory, GPIO, uClibc, RTEMS, Yocto, Real-time On-Board Computer (OBC) software, Erlang, Make, GDB, GNU-tools, Git, SVN, ClearCase</p>
2013	<p>Bontouch AB Software developer for android apps.</p> <p><i>Role:</i> Software Engineer <i>Keywords:</i> C, Obj-C, C++, Java (Android), iOS, OpenCL, Git, MySQL</p>
2010-2012	<p>Space Applications NV, Brussels, Belgium Real-time based software development for embedded systems prototyping advanced avionics technology for future manned and unmanned spacecraft. Development was focused on Fault tolerant On-Board Computer (OBC).</p> <p><i>Role:</i> Software Engineer <i>Keywords:</i> Leon2, x86, C, C++, Make, GNU-tools, GDB, Bash, RTEMS, RT-Linux, Ethernet, TSIM, GTK, QT4, QEMU, Matlab/Simulink, Mosaic, EuroSim, Rational DOORS, VectorCAST, Misra-C, ECSS, SVN</p>
2008-2010	<p>ENEA SoftwareAB, Sweden, France, Romania Team leader/Developer in Romania for development of ENEA platform BSP. Team leader in Aix in Provence, France, for development of ENEA Protocols. Sole developer for ENEA Accelerator embedded platform</p> <p><i>Role:</i> Software Engineer <i>Keywords:</i> C, GDB, GNU-tools, Device Drivers, Embedded Linux, DSP, OSE, Linux, Ethernet, High Availability, OpenSAF, ClearCase</p>

2007	Czech Technical University, Prague, Czech Republic Extended development of thesis work realising a dynamic distributed wireless sensor network (WSN). <i>Role:</i> Software Engineer <i>Keywords:</i> TinyOS, NesC, TDMA, Distributed system, Real-time, GNU tools, QT, SVN
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