

Mr. Gianni Pucillo (Italian Nationality)

PROFESSION Software Engineer

PREFERRED JOB High-tech software development

WORK EXPERIENCE

January 2014 – present

Software Engineer

- **IoT and embedded systems:** knowledge and skills improvement, updating to the new *hardware, software* and *OS/RTOS* technologies, small projects design and realization
- **3D/2D graphics and DSP:** small consultancy and web application/utilities development
- Studies and updates on **Hard/Soft skills** theories and applications: SDLC, guideline, protocol, standards, etc.

Sector Computing/IT

April 1995 – January 2014

Freelance IT Consultant, Software Analyst and Developer

Some of the most important software solutions developed by me:

- 1992 - 2014: real-time interactive [3D scene graph engine and ROS](#) for VEGA space launcher virtual reality simulator: DOS and Windows
- 1996 - 2013: development of [embedded system](#) firmware, RTOS and PC applications for SCADA systems: DOS, Windows, MON186, µC/OSII, OpenAT
- 2002 – 2007: listen & Locate ([LandL](#)) for police investigation. Developed under Windows with map navigation; multi-GPS and multi-GSM, voice recorder, conversation transcription, multi-thread, etc.
- 1995 - 2014: real-time interactive [3D scene graph engine and ROS](#) application for Virtual and Augmented Reality with real-time 3D script: DOS and Windows, LabVIEW, Mathematica, Matlab, Maple
- 1996 – 2008: [SirioCL](#) Chrominance and Luminance measurement application in place of a spectrophotometer
- 1995 – 1999: MGA-K2D: 2D graphic library with real-time graphic script language for Matrox MGA graphic board under DOS and LynxOS

Sector Computing/IT

December 1984 – March 1995

Product Manager, Product Specialist, Software Analyst and Developer, Hardware maintenance

3G-electronics MATROX ITALY and four different employers in Rome, Milan and hinterland

Many learning and work experiences opportunities, on *hard-skills* and on *soft-skills*. Worked and influenced big industry companies (i.e. Matrox, Mitsubishi, Hitachi, JVC, etc.) culminating in the developing of the [Term3D multi-stage 3D graphic rocket simulation](#) application for *BPD Defence and Space* (currently ELV in Colleferro, Rome), “launching” my own company

Meetings, courses, autonomous studies, technology passion, leads me into the holistic mindset of hardware and software relation

Sector Import, distribution and technical support of high level IT products.

PERSONAL SKILLS

Languages
(CEFR standard)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	B2	B2	B2	B2
French	B2	B2	B2	B2	B2
German	A1	A2	A1	A1	A2
Spanish	A2	A2	A2	A2	A2
Italian	Native language				

Communication

A very good level of communication also based on the soft-skills knowledge

Organisational and Managerial	<ul style="list-style-type: none"> ▪ Knowledge of Agile as a team player and application of SCRUM, V-Model, TDD, Kanban, Waterfall ▪ Tools such Project Management, UML, Mind Mapping, BT, IT, VCS, CMS, etc. ▪ Coded <i>ad-hoc</i> software utilities like small CASE tools, organizers, PDA, planners, etc.
Job-related skills	Considerable experience and in-depth knowledge in hardware maintenance and in office and productivity software, wide exposure to Electronics issues**
Other skills	Good manual dexterity in routine maintenance especially in Electrical/Electronic tasks
Driving licence	B

EDUCATION AND TRAINING

September 1979 – July 1984

Expert in Electronics and Information Technology

High-school diploma awarded at Experimental Technical Institute “Claudio Varalli” of Bollate (Milan)

ADDITIONAL INFORMATION

Publications

- *Born from cathodic protection*; JCE Group - Industrial Automation, Milan, 2003
- *Interactive prototype*; JCE Group - Industrial Automation, Milan, 2003
- *One application, three monitors*; JCE Group - Industrial Automation, Milan, 2004
- *Beyond the spectrophotometers*; JCE Group – PuntoMIL, Milan, 2004

Presentations

- ENEA, Robotic department, Rome, 2006: *VisProject: a real-time interactive full graphic 3D processor and simulator*

ANNEXES

- Skill and knowledge general list*
- Skill and knowledge in Electronics**

Other information

- More details are available at: giannipucillo.it/career

PERSONAL INFORMATION

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Skill and Knowledge general list

- **Application developed:** [3D scene graph](#) and [ROS](#), [embedded software](#), [OpenGL script & interpreter](#), SCADA, DSP, firmware, police investigation
- **Algorithm developed:** data persistence, nesting, collision detection, direct and inverse kinematics, multi-tasking, VRML parser, 3D object reconstruction
- **Libraries & drivers, interfaces, COTS, utilities developed:** Hitachi photo-printer, Mitsubishi sublimation color printer, JVC high-definition color camera; MOS Technology 6502 compiler; high-resolution CRT color monitor calibration probe; 2D graphic SDK (MGA-K2D) and 3D/OpenGL graphic SDK
- **Languages, interfaces, protocols, standards, guidelines, buses:** C, Assembler, C++, ADA, Java, Android, Kotlin, Python, VBA, Fortran, Basic, Pascal, Prolog; DPML, DMA, PIO, interrupt handling, multi-thread; IPC; Maple 8 and Wolfram Mathematica 5; 3DS, IGES; TCP/IP, UDP/IP, CSS/HTML, [JSON](#), [NodeJS](#), [React & Active](#), VRML, LaTeX, XML, SMTP, socket & winsocket; SQL; RS232/RS485, GSM and GPS; MIL-STD-1553, ARINC 429, Spacewire, CAN, SPI, I²C, Modbus, UART, USB, Ethernet, IEEE-488 (GPIB), SCSI; Bluetooth & BLE, WiFi, RFID & IR
- **Libraries and scripting languages:** libpcap & winpcap, 3D SXCI Matrox library, Silicon Graphics OpenGL/GLU; Matrox's imaging, video, 3D and 2D graphic libraries; Prof-UIS GUI; Halo graphic; Microsoft SDK, MFC, STL; MapPoint and Navigator [maps](#); Javascript; DOS batch; UNIX/LynxOS vi, bash, sh, sed, grep, etc.
- **Models, paradigm, methodologies, concepts:** ISO/OSI, V-Model, DDD, TDD, CI & CD, Agile Scrum & Kanban, DevOps
- **SDLC tools:** Eclipse; Arduino IDE; Qt, IntelliJ, GPS; ESP-IDF; Metaware, Intel, Visual Studio C/C++ & .NET, Wavecom OpenAT, Watcom C/C++; Zworld DynamicC; AMD/Falcom MON186; Microsoft and Pharlap Assembler; cMake, Ant, Maven, Gradle, command line build & debug tools, GCC, GDB, script & batch files, makefile, local and remote debugging; LabVIEW's CGI, VI and C interface; Cygwin, MinGW; GIT & SVN; MantisBT, Bugzilla, Redmine; Jenkins; IBM Rhapsody, IBM DOORS & RM, UML, UMLet, MagicDraw, SmartDraw, EdrawMax; JIRA, Podio; Doxygen
- **Hardware, μ Processor & μ Controller, GPU, SoC, SBC, OBC:** Raspberry Pi, Espressif ESP32, Rabbit Semiconductor R3000, ARM; LP3500 and [RCM3700](#); AMD186ES; Falcom, Wavecom, Siemens, Ericsson intelligent GSM/GPS/GPRS; Z80, MOS Technology 6502; Intel x86; Matrox MGA graphic chip series (Titan, Athlas, Dubic, Athena, Storm, MGA-2064W formally Millennium, [non disclosure agreement](#)); S3 Graphics chip series; Matrox's 3D, Image and Video boards; [JVC's high resolution](#) cameras; AT, VESA, MCA, PCI Bus; NI I/O boards [AT-DIO-32E](#), [RT7030_OBC](#) with 6533 I/O module; Intel 8255 and MCS-48; TIGA TMS34010 and TMS34020 graphic processors; [FPGA & Verilog & VHDL](#).
- **Electronics equipment, peripheral, IC blocks, datasheet:** timers, ADC, DAC, PWM, sensors, motors, encoder, CAN transceiver, transducers, PLC, ... [more](#)
- **Operating Systems, networks:** Microsoft Windows, FreeRTOS, RTEMS, LynxOS X11, Linux (Ubuntu, Mandrake, Red Hat, Suse, Kodi, Debian, Kali), VMWare and VirtualBox, Micrium μ C/OS-II, CP/M, IBM PC DOS, MS-DOS, Pharlap and Rational DOS Extender, IBM OS/2; 10NET, Novell; Apple II & III, Macintosh "classic" MacOS; Commodore, Amiga, Olivetti P6060; IBM AS400 & System 35; Digital PDP11
- **High-tech Software applications:** ProjectLibre and MS Projects; Freemind; Altia; [Matlab](#); [Maple](#); [LabVIEW](#) & [LabVIEW RT](#); [Mathematica](#); Autocad and 3D-Studio, Unity 3D, Unreal Engine, Blender, Crystal Graphics Topas and Topas Professional ([March](#) and [July](#) congratulation fax), Caddy, Cadence, Microstation, ComputerVision, Nemetschek Allplan, 3D-Designer, Arc+, Kinetix 3D Studio Max, Ziegler Signalys DSP, Twine, OrCAD, etc.
- **Most important Business entities:** IBM, **Matrox**, Sirio Panel, **BPD Defence and Space**, Fiat Auto, **Fiat Avio**, **ELV** (European Launch Vehicle), Minardi F1, Ansaldo, Mitsubishi, Hitachi, JVC, Autodesk, Wolfram Research Italia, National Instruments, Crystal Graphics, Altia, Gilardoni, Maplesoft, Nemetschek, Politecnico di Milano, Esercito Italiano, Marconi Group, Zworld, Falcom, Wavecom, Siemens, Ericsson, Olivetti, Intel, S3 Graphics, Philips
- **Software applications:** Excel (spreadsheet), Word (word processor), PowerPoint (presentation), Video editing, Picture editing, Database, web editors, Apple II/III and Macintosh system and office software products

Skill and Knowledge in Electronics

- small PCB design and realization also using Electronics CAD
- reading schematics & device datasheets; worked with JTAG and older CPU emulator probes
- use of lab instrumentation such as oscilloscope, wave generator, logic analyzer, digital/analog multimeter
- support and repairing of Matrox graphics boards
- designed and prototyped analog and digital cables like RS232, RS485; ad hoc I/O cable to connect intelligent GSM, Z80, RCM3700 and LP3500 SBCs, GPS; graphic boards cables and switches
- maintenance of AT, VESA, MCA, PCI and other expansion boards for PC
- 40 wires parallel cable designed to interface National Instruments [AT-DIO-32F](#) and Intel 8255 based boards, to ELV I/O boards (VEGA launcher project), designing and implementing a bespoke 32 bit parallel high-speed data transmission.
- three rollers calender, for metal pipes manufacturing. Based on MOS Technology 6502 microprocessor, with rotary and linear encoders and two motors for each roller
- Ultrasound soldering machine for plastic materials (6502 based) with motorized soldering head, head pressure sensor, time based ultrasound emission
- X-ray photographs conveyor belt (6502 based) equipped with rotary and linear encoders, backlighted panel and two motors
- PROM-EPROM-EEPROM programming and substitution; microprocessor and integrated circuit handling such memory upgrades, coprocessor installation, etc.
- mounting and maintenance of PC keyboards and 6502 based PLC