balagajen@gmail.com | 07727284129 | 50, Parkway, Crawley, RH10 3BT| British Citizen | Full UK driving licence

**TECHNICAL SKILLS**

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| Hardware Architecture: | STM32 Arm Cortex-M Processors, 8051 ADUC842, Microchip PIC16/18 Family, Raspberry Pi, Arduino and x86 hardware. |
| Hardware Design Tools | CADStar, Altium, Diptrace, LT Spice, Texas Instruments WEBENCH, ViewMate. |
| Programming Languages: | C and C#. Working knowledge in C++, Assembler, Ruby rake, bash, batch, php, HTML, CSS, Java Script, JAVA. |
| Software Design Tools: | IAR Embedded Workbench, MPLAB, MS Visual Studio, Eclipse, GTest for TDD/Unit Test, Git, SVN, Tortoise SVN, Jenkins, Bugzilla, Trac, Inno setup, WinMerge, htmlhelp, Doxygen. |
| Databases: | MS SQL and MySQL. |
| Hardware Tools: | IAR I-Jet, ST Link, PICkIt and ICD2 Emulator. Oscilloscope, Signal Generators, Spectrum Analyser. |
| Operating Systems: | FreeRTOS, VxWorks7, Linux(Debian, CentOS, Ubuntu, Rasbian), Windows 7/8/10. |
| Other Tools | VirtualBox, VMWare, Autoit, WES2009/WES7 tools, MS Office, Adobe Photoshop, Adobe Illustrator, AutoCAD. |

**EXPERIENCE**

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| **Electronics Engineer at RIVERTRACE ENGINEERING LTD.** | **(07/2018 to date)** |
| Member of R&D team responsible for carrying out research on new technology and produce electronic hardware design using both Analogue and digital electronics for marine industry. Responsibilities include :   * Producing water turbidity (NTU) meter, Oil in water PPM detector, water PH meter. * Currently working on Polycyclic Hydrocarbon (PAH) in water detector using UV and fluorescent light. * Producing various hardware prototypes to help carry out research on the new technology / Idea. * Amalgamating prototype designs into complete working product for mass production. * Characterising response signal and producing algorithms and polynomial formulas to calculate the output. * Technologies used include switched mode PSU, Common mode filters, UV LED, Infrared Laser diode, Photo diodes, Optical filters, precision stable LED brightness control. transimpedance amps with software controlled dynamic gain switching, , Analogue switche, Multiplexed ADCs, dynamic offsets for op amps using DACs, Digi-Pots for dynamic gain settings, RS485/RS232 comms and microcontroller. | |

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| **Embedded Software Engineer at Eurotherm by Schneider Electric.** | **(01/2017 to 06/2018)** |
| Member of Tactical Software team responsible delivering customised firmware as per customer requirement for various devices with various hardware architectures and operating system. Responsibilities include   * Producing software design specification as per functional specification using ISO9001 standard procedures. * Carryout software implementation as per design specification. This includes TDD / Unit Tests. * Commit code to the repository, track commits and organise code review by software team. * Producing Test Specification. This includes manual design tests and Integration tests. * Produce firmware files, Associated PC Tools and Installers. * Release Software using the internal document control system. | |

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| **Hardware Development Engineer at Eurotherm by Schneider Electric.** | **(12/2013 to 12/2016)** |
| Member of R&D Hardware team responsible for design and development of ARM Processor based temperature and process PID controllers. Responsibilities include:   * Producing hardware design specification as per functional specification using ISO9001 standard procedures. * Produce hardware design as per design specification. * Schematic and PCB design and preparation of Bill of Materials. Liaise with suppliers and manufacturers. * Producing Test Specification and Integration Test Specification. * Product Testing, including signal level and integrity, EMC, ESD, Surge and Hipot Testing. * Carrying out long term environmental testing. | |

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| **Software Engineer at TechCube Ltd.** | **(02/2013 to 12/2013)** |
| In charge of the design and development of electronic point of sale software based on C# & MS SQL. Responsibilities include   * Meeting customers and collecting requirements and producing requirement specification and developing modules for EPOS software. * Resilient database development for client terminals and developed centralised database backup and restore Management Software. * Back Office Software development Reporting using Crystal Reports and telerik modules. * Hardware integration for Receipt Printer, Cash Drawer, Barcode Scanner, Credit Card Machine, Touch screen, Embedded PC and Text overlay on Video Encoder. | |

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| **System Engineer (Product Development) at Bailoy Products Ltd** | **(02/2010 TO 12/2012)** |
| In charge of the design and development of embedded system using x86 computer hardware and Windows Embedded OS. Responsibilities include writing product specification, conducting research and development on proprietary hardware, circuit design, component sourcing, PCB design for EMC, system integration, building prototypes, software development, and product documentation. Technology and tools used:   * USB, RS232, SPI, I2C, Ethernet, Bluetooth, fibre optics, EEPROM, SD card, 3G/WCDMA modem (SIMCom SIM5218) integration and Compact Flash card interfaces. * Target Analyzer, Target Designer, and Component Designer for WES2009 and ImageX. * System application using C# and MS SQL. * Platform independent remote access (using handheld devices), remote support, and remote backup of the embedded system using remote desktop technology (NTRglobal). | |

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| **Hardware Developer at Bailoy Products Ltd** | **(08/2007 to 01/2010)** |
| **In charge of initiating new product ideas and concepts,** writing design speciation, circuit design, component sourcing, PCB design, prototyping and testing, software development and testing and documentation. Projects:   * High power square wave generator with adjustable frequencies. * Modulator hardware for data transmission by modulating low voltage power line. Modulator test software development using C# for transmitting and receiving data packets. * Multi-channel high-speed current sensor design for proprietary hardware. * Developed hardware for registering data transmission and talk back packets on low voltage power line. Test software development using C# for logging current sensor data. * Research and development of serial-over-internet for devices, which are behind firewall. * Feasibility study on integrating ZigBee technology to the proprietary hardware. * Feasibility study on using open source hardware (Beagle Board) and Linux for embedded systems. * Feasibility study on using .NET micro framework based hardware (GHI Electronics) and Silverlight (UI) for embedded systems. | |

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| **Junior System Engineer (Hardware and Software) at Bailoy Products Ltd** | **(06/2004 to 07/2007)** |
| * Developed a hand held service tool using PIC 18F microcontroller and C18 Compiler. * Windows Mobile 6 Hand held device application development using C#. * Bluetooth (Module) integrated at hardware and software level. * Developed tester hardware for proprietary products. | |

**EDUCATION**

**BEng Hons in Computer Systems Engineering** (2.1), University of Hull, UK **2004**

**Computer Hardware Engineering** (Distinction), MICOM, Sri Lanka **1999**

**Diploma in Computer Studies** (Distinction), IDM, Sri Lanka  **1999**

**ADDITIONAL INFORMATION**

* **Driving:** Full UK driving licence.
* **Immigration status:** British Citizen.