

# **CURRICULUM VITAE**

## **Dave Westwood**

### **Skills**

#### **Digital Hardware Expertise**

- FPGA & ASIC design & implementation, mostly Xilinx Zynq, Virtex & Ultrascale +, Altera Stratix-V, Actel/MicroSemi Pro-Asic 3 and RTAX
- DAS and digital signal processing
- High-Speed FPGA assisted financial trading
- Space and High-Rel / High-Radiation environments
- High-speed serial, SerDes, PCIexpress, AXI and Avalon
- Embedded CPUs, ARM, PIC, AVR, x86, 68K, Power-PC
- Digital Video, MIPI, broadcast, compression
- Network, Ethernet 100M/1G/10G, WiFi
- Memory SDRAM, DDR2,3 & 4, Flash, QSPI etc
- VOIP & Video Conference, H.261, H.263, SIP, MGCP

#### **Analogue Hardware Expertise**

- RF, ISM, Zigbee, Bluetooth
- High Performance amplifiers
- High Performance Audio & Video
- Linear & Switching power supplies

#### **Software Expertise**

- VHDL, Verilog, Xilinx Vivado & ISE, Mentor HDL Designer, Altera Max & Quartus, Actel,Libero
- C, Assembly, VB
- SQL, PHP, HTML
- Email systems, SMTP, POP, IMAP, LDAP
- Linux, Windows, Greenhills VelOSity.
- Cadence, Orcad, Mentor, DX Designer, PADS (Power PCB) & Altium

#### **Protocol Expertise**

- TCP/IP, SMTP, HTTP, FTP, CGI, PHP, Spacewire, MIL-STD-1553
- PCI express Gen 1, 2 & 3
- GSM, UMTS, Zigbee, Bluetooth, 802.15.4, 802.11
- MPEG1, 2 & 4, JPEG, Wavelet, H.261, H.263, H.323, H.324, G708
- D1, HDTV, DVB, ATSC, HDMI, MIPI CSI-2, SDI and Cameralink
- Financial protocols – FIX, ArrowHead, Ouch

#### **Project Management**

- Project requirement capturing and definition
- Timescale and budget planning
- Project timeline definition and maintenance (MS Project)
- Time and budget slippage management
- Experience of organising small (4 people +) to large (30 people +) teams
- Selection & Implementation of Workflow Management Systems and Engineering Database System

## Languages

- French & Mandarin Chinese
- Some Spanish & Thai

## Work Record

2019 – 2019	<p>FPGA Design Engineer – Focus Sensors, Southampton</p> <p>Position involves processing DAS information at high speed through IIR, FIR filters, IQ demodulation and CORDIC, implemented in Virtex 6</p>
2019 - 2019	<p>FPGA Design Engineer – RFEL, Isle of Wight</p> <p>Position involved image processing with CameraLink HD optical cameras and IR Thermal cameras, scaling, distortion correction, fusion etc for military vehicles, implemented in Xilinx Zynq7000, extensive AXI</p>
2017 - 2019	<p>FPGA Design Engineer – DXC Fixnetix, London</p> <p>Position involved maintaining, testing and improving Fixnetix's range of FPGA enhanced trading and risk management financial solutions based on Altera Stratix-V devices using Quartus Prime, Xilinx Virtex Ultrascale+ using Vivado and QuestaSim on Linux.</p> <p>TCP/IP in FPGA over 10/40/100G Ethernet, DDR3/DDR4/QDR and PCIeexpress</p>
2016 - 2017	<p>FPGA Design Engineer – Surrey Satellite Technology, Guildford</p> <p>Position involved developing an integrated FPGA / multi-processor system implemented on Xilinx Zynq UltraScale+. Utilising H.265 compression, MIPI CSI-2, PCIeexpress, SPI, I<sup>2</sup>C, DDR4 etc. Including testing, verification and validation. VHDL coding of PCIeexpress drivers, MIPI receiver, de-bayer, colour space conversion and image processing</p>
2010 – 2016	<p>Project Engineer – Mullard Space Science Laboratory, Dorking, Surrey</p> <p>Position involved developing FPGA solutions for spacecraft scientific missions using Mentor Graphics HDL designer. These included CCD control, DAC / ADC control, serial interfacing, command interpretation, video processing and memory control.</p> <p>Devices used were typically Actel radiation tolerant, but also included Xilinx for higher-speed and higher density projects</p>

2009 - 2010	<p>Contract Engineer – Bosch Security Systems, Fleet, Hampshire</p> <p>Position involved modernising very out of date product range, implementing structured design methodology, and document control. Design of newer, slimline, higher power and more feature-rich PSUs as well as bespoke test solutions and Designing and developing the next generation of IP-Enabled video camera solutions</p>
2008 - 2009	<p>Project Manager - Solarflare Communications, Cambridge</p> <p>Position involved project management for Solarflare's 10G Ethernet products, implemented as 10GBase-T and SFP+ on 8-lane PCI-Express.. Defining project timeline in MS Project, defining validation tests, organising timescales and budget and managing milestones</p>
2004 – 2008	<p>Senior Design Engineer - Tyco Electronics, North Wales</p> <p>Position involved design of various products into Tyco's telecommunication and network product range including control systems for telecom exchange broadband test solutions, network connectivity analyser, 802.15.4 RF network for industrial control and automated metering, Wi-Fi (802.11) and GSM/GPRS access point for extending the reach of this RF network, liaison with customer, capture of requirements/specifications, timescales and budget, team selection, management of slippage.</p>
2001 – 2004	<p>Special Projects Manager - System X10 Ltd, Hong Kong</p> <p>Position was primarily one of developing custom ASIC solutions for high power, low cost consumer electronics. Position also entailed digital design and schematic capture. Plus a good deal of network administration – Including setting up T1 WAN connection, configuration and maintenance of Cisco routers, setting up IPLC to international office, and phone administration via VOIP</p>
2000 – 2001	<p>Design Engineer - Digital Acoustics Sdn Bhd, Malaysia</p> <p>Position entailed the layout and design of Digital Acoustics' range of high end consumer AV equipment. This involved schematic capture with Orcad and custom chip design on a variety of Lattice and Altera FPGAs using Altera Max-Plus-2, Quartus and Lattice ISP-Expert. Design entry was a combination of schematic Able and VHDL</p>
1998 - 2000	<p>Technical Manager - Drake Automation Ltd, Malaysia</p> <p>Position was based in Malaysia, though working directly for UK based head office. Primarily involved design, analysis and installation of networked fully redundant automation systems for broadcast TV.</p>

1996 – 1998	<p>Technical Manager - Snell &amp; Wilcox Ltd, Twickenham, Malaysia</p> <p>My time with Snell &amp; Wilcox entailed intimate knowledge of all Snell &amp; Wilcox products with specific focus on MPEG and standards conversion, along with extensive travel in and around the area.</p>
1995 – 1996	<p>Chief Design Engineer - Digital Graffiti Ltd, Rayners Lane</p> <p>Development of cards for video keying and broadcast integration, JPEG Digital Video Compression / Decompression, Audio sampling and playback, SCSI disk control, MPEG decompression for Amiga Zorro 3 and PC PCI slots.</p>
1994 – 1995	<p>Sole Proprietor - DJW Microsystems, Shrewsbury</p> <p>Developed Graphics system for the Amiga. Employed six staff and furthered my knowledge of Amigas and Graphics systems.</p>
1988 – 1994	Taking BSc and MSc (degree)
1986 – 1988	<p>Sales Manager - Amiga Centre Scotland, Edinburgh</p> <p>Position entailed extensive worldwide sales of Amiga and Amiga Related products. I Partially helped, during my time here, develop the Harlequin Graphics board that was the first 24-bit Frame Buffer for the Amiga platform.</p>
1983 – 1985	<p>Sales Executive, then Branch Manager - Cursor Computers</p> <p>Position entailed extensive training in all fields of sales, including Telephone Sales, rep-calls, cold-calls and direct shop environment. Management responsibilities included delegation of duty to staff under myself, shop administration, stock control and complaints handling.</p>

## Educational Grades Attained

14 GCE O Levels

5 A Level

BSc Electronic Engineering

MSc Electronic Engineering

## Contact Details

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E-Mail	<a href="mailto:dave@westwood.org">dave@westwood.org</a>
Date of Birth	1 <sup>st</sup> May 1965
Marital Status	Married
Children	2

## References

I would be more than happy for any prospective employer to contact any of my previous positions and I am confident any of them will give a glowing report, however, for ease, these are the contact people at my previous 3 positions

Mr Amar Singh Project Manager DXC Fixnetix 31 <sup>st</sup> Floor, The Gherkin St Mary Axe London EC3A 8EP  Tel 0203 008 5031	Mr Dan Goldsmith Snr Project Manager RFEL Unit-B, The Apex St Cross Business Park Newport, Isle of Wight PO30 5XW  Tel 01983 216600	Mr Ed Austin CEO Focus Sensors 39 Mitchell Point Ensign Way Hamble, Southampton SO31 4RF  Tel 02381 843541
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## Interests

Electronics, I design and construct my own products including computer parts and Engine ECU on my current car

I am in the process of building my own car from the ground up including 14 custom ECUs covering engine management, driveline control, instrumentation and infotainment

Travel, Reading, Music, Cinema, Off-Road driving and all forms of Water Sport, especially diving and power boats.