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Multi-disciplinary product development engineer, with previous experience in audio design, seeks challenging new role in systems design.

Professional Experience

Rehabilitation. London & Manchester, UK July 2014 - Present

I have been in rehabilitation for the past 3 years after I was run over in London.

ROLI Ltd. London, UK

Embedded Software Engineer March 2014 - July 2014

Embedded software and electronic design engineer, working across an array of exciting products and technologies.

Monitor Audio Ltd. Essex, UK

Lead Engineer May 2012 - March 2014

- Development of 4 wireless audio products; Acoustic design, UI design and software verification.
- All in-house software design and DVCS software management (C/Python).
- Ground-up amplifier platform design. All schematic, mechanical and software development (C).
- Providing software and schematic feedback to CMs based in China.
- Electro-acoustic transducer design based on advanced FEA modelling techniques.
- In-house VPS implementation and maintenance for several different departments.
- New product feasibility and market sector assessment.

Acoustic Engineer July 2010 - April 2012

- Active system development, with strong focus on verification and project management.
- Passive loudspeaker development and transducer mechanical design.
- Development of new FEA techniques, focusing on faster modelling methods with higher accuracy.

Bang & Olufsen A/S. Struer, Denmark

Acoustic Engineer August 2008 - August 2009

Systems product developer, researching and prototyping future technologies for new products.

- Adaptive algorithms development for embedded SHARC DSP implementations (C).
- Ethernet audio networking hardware investigation based on proprietary ethernet stack (C/Python).

Education

University of Salford. Manchester, UK

B.Sc. Audio Technology (1st Class Hons.) June 2010

- Thesis Subject: Limitations of pistonic behaviour in electro-acoustic transducers
An analytical solution for cone displacement was derived, to replace modern, costly FEA methods.
- Areas of Study: Digital Audio, Software Development, Data Set Analysis, Statistics, Digital Signal Processing, Principles of Acoustics, Electroacoustics, Audio Electronics and Room Acoustics.

Achievements

- What HiFi Magazine Product of the Year 2012 - Monitor Audio MASS 5.1 System
Transducer design, cabinet design, software development & final system voicing.
- What HiFi Magazine 5-star Reviews - Monitor Audio i-deck range & Silver W12 Subwoofer
Acoustic design, voicing, hardware design, software development and DSP design.

Key Skills

Computer Programming

- C/C++, Java (Android), JS, Python, SQL, Mongo/Redis, PHP & UNIX shell scripting. Familiar with Objective-C, Assembly & Node.js.

Technologies

- Apple AirPlay, Developer and MFi programme. SMSC JukeBlox, Bluetooth, UPnP/DLNA & Amazon AWS.

Electronic Engineering

- Digital Signal Processing, digital audio transit schemes, digital and analogue filter theory & simulation.
- Digital audio electronics specification, design capture and PCB layout.
- Microcontroller and DSP firmware development.
- ARM Cortex, PIC, Atmel ATmega, TI MSP430 MCUs and TI CC55x, ADI SHARC and Σ DSPs.
- Experience with both 8051 family limited instruction set, and ARM extended peripherals.

Acoustic Engineering

- Transducer design, crossover design, system tuning and critical listening.
- Finite Element Analysis, numerical modelling, analytical system design and estimation.

Software and Measurement Systems

- IDE - Netbeans, Keil uVision, TI CodeComposer (Eclipse), Visual Studio, VisualDSP++, XCode.
- Toolchains - GNU, LLVM, Keil ARMCC.
- Audio - Klippel R&D and QC, Prism Sound DScope, Clio.
- FEA & CAD - COMSOL 3.5 and 4.x, AutoCAD, Altium Designer.

Information/Internet Technology

- Linux (Arch and Debian-based), Mac OS X and Windows operating systems.
- \LaTeX , LibreOffice, vim, nano.
- Linux-based VPS building and maintenance (primarily Amazon EC2/AWS).

Numerical Analysis and Version Control

- MATLAB, Octave, Mathematica, Excel.
- DVCS (Git), VCS (SVN), Altium Vault.

Other Proficiencies

- Hardware testing and verification.
- QA test plan specification, verification and automation.
- Software debugging, validation and regression testing. Agile development and peer code review process.
- Project management, range development and market trend analysis.

Affiliations

Audio Engineering Society (AES)

Areas of Interest

Embedded audio systems development, responsive UI design, Linux kernel development, cloud technologies, mobile apps, networked and streaming audio system design & home integration platforms.

References

References available on request.