Sanjeev Surendran
DSP Developer

Personal Info

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Date of birth
26 June 1993

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Programming Languages

- Experienced in C, C++
- Assembly - ARM v7, Neon SIMD, VFPv4
- Intrinsics – SHARC, MSTAR R2, ZSP and Tensilica Xtensa HiFi2, HiFi3, HiFi4.

Software Development Tools

- Trained in Microsoft Visual Studio, DS-5 Development Studio, ZVIEW, Xtensa Xplorer, Eclipse.
- Code compilation tool – Cmake, Make.
- Unit Testing – Google Testing Framework

Platform Knowledge

- ADSP-21584, ADSP-21573, ADSP-21489, Xtensa HIFI-3, ZSP800 and R-Car E2, R-Car M2, R-Car H2, R-Car H1.

Project Management

- Efficient in JIRA to track issues, Jenkins for build and test automation.
- Knowledge in revision control sytems - Git, Perforce, TortoiseSVN and Mercurial SCM tool.

Computer Skills

- Proficient in using MS Word and MS Excel.
- Knowledge in Beyond Compare and Audacity tool.
- Scripts – Batch File, Python and Shell script.

Staff Engineer with 7 years of experience in DSP algorithms and embedded multimedia systems. Adept in optimization of DSP code for various processors and responsible in delivery of endowed final product. Expert in developing audio algorithms and Floating-point to Fixed-point conversion.

Experience

Dec 2019 – present

Staff Engineer
Samsung Electronics

Responsibilities

- Porting and optimization of audio post-processing algorithms for HiFi4 Xtensa DSP Processor.
- Floating point to Fixed point conversion of complex algorithms.
- Worked in development of DSP Firmware to control input – output flow and pass parameters of algorithm through software registers.
- Verification of device via fuse id magic number and enable audio processing for particular device.
- Developing framework for integrating various audio post-processing algorithms.
- Bug fixing real-time issues in firmware and ALSA audio driver – Lip sync, audio buffer delay, and audio description.
- Worked in MATLAB to generate coefficients for FIR filter.
- Integrating static library APIs to connect Dolby Integration Development Kit for various audio codecs – DD, DD+, MAT, AC4.

Apr 2018 – Dec 2019

Senior Product Engineer
Harman

Responsibilities

- Porting and optimization of audio post-processing algorithms for HiFi3 Xtensa DSP Processor.
- Floating point to fixed point conversion of complex algorithms.
- Testing algorithm interface and working model through Tuning Tool Design interface.
- Worked in writing APIs for Surround Sound and Height upmixing algorithm.

Oct 2014 – Apr 2018

Senior Engineer
TATA Elxsi

Responsibilities

- Developed DSD (Digital Stream Decoder) from Specification.
- Tested audio decoder to ensure quality in hearing decoded PCM data.
- Integrated various audio decoders to OPENMAX API, Directshow and GStreamer multimedia frameworks.

Key Competencies

- Fluent communication to develop coordination.
- Management of team in making technical decisions.
- Technically skilled to learn new algorithms and to handle difficult problems.
- Follow MISRA coding standards and adhere to technical documentations (ISO / IEC International Standards) for DSP algorithm development.

Education

Aug 2010 - Apr 2014

University of Kerala
Electronics and Communication Engineering
Bachelor of Technology

CGPA – 8.29 (First Class with Distinction)

Mar 2010

Higher Secondary (CBSE)
Saraswathi Vidyalaya

80% (First Class)

Mar 2008

Higher School (CBSE)
Saraswathi Vidyalaya

85% (First Class)