Farida Khizrah

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Professional Summary:

- Working as Embedded Engineer in Qualcomm India Pvt Ltd., Hyderabad from November 2022 to till Date.
- Worked as Firmware Engineer in Honeywell Technology Solutions Lab Pvt Ltd., Bangalore from April 2021 to till Nov 2022.
- Worked as Hardware Engineer in Honeywell Technology Solutions Lab Pvt Ltd., Bangalore from April 2020 to April 2021.

Professional Experience:

- Experience in Embedded Firmware Development and Microprocessor and Microcontroller interfacing based on the design requirements using Object Oriented Programming Concepts.
- Experience with the development and debugging of the firmware using programming languages C and C++ that adhere to the AERO coding and design standards.
- Experience in testing core SW drivers/features for Qualcomm's Automotive features of Gunyah hypervisor and ARM System Memory Management
- Experience in Testing of Linux based Hypervisor.
- Experience in developing Features and testing for Qualcomm's Automotive chipsets.
- Good understanding of DO-178C and SLDC.
- Worked on platform development on microprocessors/ microcontrollers like TMS570LC4357, TMS470LS3137.
- Good understanding of Linux based Operating systems.
- Experience in understanding various kinds of debug logs and trouble shoot the issue.
- Development of common code for Hercules and Kinetis platforms.
- Hercules - GIO, N2HETGIO, F021.
- ANSI library related functions.
- Powerup BIT development and testing experience on Hercules platform.
- FPGA Loader development and testing experience for the Hercules platform to load FPGA image from the external flash.
- Experience in modifying the existing software to enhance the interfaces for improvement of the performance.
- Gained the experience in formalizing the code and design of the KTR 2280B program to adhere according to the coding standards.
- Experience in Electronic PCB troubleshooting Techniques and methods available in market.
- Experience in Basic instrumentation in Test Methodology.
- Experience in working with cross-functional teams for achieving the efficiency of the program.
- Experience in resolving the issues detected within the program and improvising the software based on them.
- Develop design documents for Software and write test procedure deliver documents.
- Develop the release documents as per the AERO standards.
- Experience in assembly language analysis and Good debugging skills.
- Experience in performing and participating in the peer reviews.
- Knowledge about RTOS concepts.

Key Projects with Qualcomm:

- Type 1 Hypervisor: Gunyah is a Linux based high performance, scalable and flexible hypervisor built for real-time, safety and security use cases. Gunyah hypervisor runs independently of any high-level OS kernel. Hypervisor sub system hasfeatures like Inter-VM Communication, Memory Management.
- ARM SMMU: The architecture can be used for a system-level MMU. It supports address translation from an input address to an output address, based on address mapping and memory attribute information held in translation tables.

Key Projects with Honeywell:

- KTR2280B: This is the integration of the communication and navigation radios providing the best-in-class radio solution in one of the most compact form factors available designed for business jets, general aviation and helicopters. This project uses the Hercules Platform controller TMS570LC4357 from the Texas Instruments (TI).
- Propulsion Common Controller: The PCC uses NXP's MPC5777 for the main processor function and the Texas Instruments (TI) TMS470LS3137 for the overspeed function. The MPC5777 is a power PC handling the functionalities of the interfaces connected to the unit and the Hercules controller TMS470LS3137 controls the overspeed of the engine. It has 2 variants: air-cooled and fuel-cooled, which are to be used based on the application software.
- JTAG: JTAG is Troubleshooting methodology to provide a component level solution for a PCB with the help of Boundary Scan methodology. JTAG Provision Boundary-scan Integrated Development Environment (IDE) is a test and programming application development suite that is used to generate boundary-scan tests to implement Scan Chain Infrastructure Test, Interconnect test for assembled PCBs and systems.
- Compact Fly by Wire, CFBW: The three FCC type platforms will have all these CSCIs. ○ FCC Type A: TI Hercules TMS570LC4357 Microcontroller
    - FCC Type B: NXP MPC5777C
    - FCC Type C: Infineon SAK-TC399XX-256F300S BD
- Here the architecture remains same for the three FCCs. It works based on the split boot architecture on which the Platform Software interfaces to the underlying target hardware and provides interfaces for the application software to access the hardware features.

Education:

PG–Diploma | CDAC, Hyderabad | Aug 2019– Feb 2020
Field: Embedded Systems and Design (PG – DESD) | Grade: B

Bachelor of Technology | Bapatla Engineering College (Autonomous), Bapatla | Sep 2014 – Apr 2018 Field: Electronics and Communication Engineering (ECE) | Percentage: 83.71

Technical Skills:

Programming Languages:	Embedded Software problem solving, development and debugging skills in embedded C, C++. Beginner in MATLAB, LabView.
Technical Skills:	Device driver development and debugging, Porting the middleware to the target board. Knowledge in RTOS concepts. Good understanding of assembly language. Known Protocols: SPI, I2C, SCI. Operating Systems: Windows, HeartOS

Tools:

Debugging Tools:	QIFL Flash, PCAT , Crashscope Putty ,Code Composer Studio and Uniflash, Lauterbach Trace32
Configuration Change Management (CCM) Tools:	IBM Rational Clearcase and Clearquest, and Requirement Management Tool IBM Rational DOORS
Code Analysis Tools:	Beyond Compare, Understand C++, Eclipse for embedded, Microsoft Visual Studio
Static Analysis Tools:	LDRA
Other Tools:	TAG Provision, DDCI , Super tracer, Honeywell Monitoring and Test System (HMATS), HALCoGen, Microsoft Office Suite

Academic Projects:

- Implementation of Vedic multiplier
- Smart mail parcel security Box.
- Water level indicator using Arduino UNO.

Extracurricular:

- Received appraisal for multi-tasking as well as delivering work products per schedule to meet key milestones.
- Active participation in the events conducted in the organization.
- Won first prize for JAM sessions in college Magazine.
- Won second prize in the competition of circuit debugging and second prize in the competition of C debugging.
- Got selected at district level in Ramanujan Maths Talent test.
- Won a prize in Pragathi talent test at district level.
- Attended a two-day workshop in VLSI design held in my college.

Languages: Telugu, English, Hindi and Urdu.