SAGAR KAYARKAR

Senior System Software Engineer • Wardha, 442001 • sagarkayarkar4@gmail.com • 8421276033

PROFESSIONAL SUMMARY

Experienced Senior System Software Engineer with 4 years and 5 months of expertise, focusing on BMC firmware development for X86 and ARM Platforms. Proven expertise in board bring-up and hands-on experience with device drivers such as I2C, SPI, PCI, SMBus. In-depth knowledge of OOB and In-band System Management, including standards IPMI, KCS, and MCTP. Skilled in distributed systems, IPC, and coding in C, Bash/Shell for both Linux user-space and system programs. Strong fundamentals in Linux kernel and U-boot, various distributions, upgrade mechanisms, and image deployment.

SKILLS

Technical Skills: C programming, Embedded C, Firmware development, Linux Kernel, Data Structure, Shell Scripting, GIT, JIRA, U-BOOT, Cross Compiler , IPC (Inter-Process Communication) , Yocto
Protocols: UART, I2C, SPI, IPMI, PLDM

EDUCATION

Nagpur University
City: Wardha
Degree: Electrical Engineering   2014-2018

PROFESSIONAL EXPERIENCE

American Megatrends International India Pvt Ltd .   *City: Chennai, India*

Senior System Software Engineer   Oct 2019-Present
- Developed and managed multiple project modules, ensuring seamless integration and functionality.
- Enhanced BMC firmware by improving the system event log and LDAP/Radius authentication methods, resulting in better overall performance.
- Implemented effective firmware recovery, managed IPMI & PLDM commands, and preserved configurations, reducing system downtime significantly.
- Utilized various firmware flashing techniques such as TFTP, SOC, and WEB, streamlining update processes for faster and more efficient results.
- Provided on-site customer support in Taiwan, resolving issues promptly and cultivating strong client relationships, leading to increased customer satisfaction.

PROJECTS

Project Name: Nvidia DGX H100   Duration:2022-Present

Project Description:

The NVIDIA DGX H100 System is the universal system purpose-built for all AI infrastructure and workloads, from analytics to training to inference. The system is built on eight NVIDIA H100 Tensor Core GPUs.

Skills Used: C Programming, Shell script, IPC, UART, I2C, MCTP and PLDM

Roles and Responsibilities:

- Established BMC-to-BMC communication feature through the USB interface.
- Developed firmware update functionality for PLDM devices using I2C and PCIe, incorporating IPC for communication
- Designed scripts for OTP image generation, ensuring secure boot with a public key.

- Implemented encryption for sensitive data, including AES keys, ensuring enhanced security.

- Fixing bugs in the issues

Project Name: Modern Controlled Baby Cradle   Duration:2017-2018

Project Description: Smart Cradle Swing system! Developed with an ATMEGA 16 microcontroller, it features Bluetooth control via an Android App, sensors for baby care, and live video monitoring.

Skills Used: C Programming, Android Studio and Arduino IDE

Roles and Responsibilities:

- Developed Cradle Swing and speed control using ATMEGA 16 microcontroller.
- Integrated Bluetooth interface for remote control via Android App.
- Implemented sensors for baby pee and presence detection with instant app alerts.
- Enabled live video monitoring accessible through the Android App.
- Project showcased in a detailed YouTube [Video Link](https://youtu.be/cw4qlGuaq74?si=cJtbR5he8OXnRqab)

Interests: DIY, IoT, Automation, Swimming

Courses: PG diploma in embedded systems, Vector Institute, Hyderabad

ACHIEVEMENTS

-Team Excellence Award (2022- Present) - American Megatrends Inc.
-Monthly Spot Awards for Work Excellence (2 Times) - American Megatrends Inc.
-Innovative Project Idea Award (2018) - DMIETR, Wardha
-First prize in Axis (VNIT Nagpur technical event) (2016)