

# PRASAD SUNIL UDAWANT

Senior Embedded Software Engineer

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## ● TECHNICAL SKILLS

♦ <b>Embedded C</b> language programming	♦ <b>Firmware</b> and <b>Device driver</b> development
♦ Embedded systems development	♦ OS/Kernel fundamentals and Internals
♦ Embedded <b>Bootloader</b> and Embedded Operating System development	

## ● INDUSTRY EXPERIENCE

### Faurecia India Private Ltd, Pune.

SEP 2020 - PRESENT

- ♦ Successfully performed **board bring up** activity for TI AWR6843 mmWave sensor SOC using Elektrobit **Autosar** stack.
- ♦ Configured OS module for Autosar project using Elektrobit Autosar stack.
- ♦ Implemented Cybersecurity features like **Secure boot** and **Digital signature verification** for **Bootloader** using Elektrobit Autosar crypto stack.
- ♦ Set up, enabled and trained a team of 25 people for toolchain expertise required for flashing, compilation and debugging the SW by providing necessary training and documentation.
- ♦ Resolved critical hurdle of merging ELF file of bootloader and application by updating linker file and using relocatable linking which allowed successful delivery of project on time.

### Cummins Technology India Private Ltd, Pune.

JULY 2016 – SEP 2020

- ♦ Contributed to design, development and optimization of Embedded Operating System and Bootloader for Cummins' ECM (Engines control modules) while working as a part of the global team at Cummins.
- ♦ Developed low-level device drivers for SPI, I2C, DMA, PWM and ADC for PowerPC microcontrollers using **Embedded C** programming language.
- ♦ Implemented firmware for watchdog, timers and clock using 32-bit NXP's PowerPC architecture microcontroller using **Embedded C** programming language.
- ♦ Debugged and resolved bugs related to RTOS scheduler, interrupts, MMU, synchronization (semaphore), ram and stack etc., by using Lauterbach Trace32 debugger.
- ♦ Individually designed and implemented firmware for NXP's HCS08 family 8-bit microcontroller using code-warrior IDE with zero defect in just 3 months. Implemented external bootloader, watchdog, over-speed monitoring and level 3 monitoring safety functional features in it. Developed flash drivers for HCS08 8-bit family microcontrollers.
- ♦ Accomplished good skill in debugging the software using Lauterbach, P&E debuggers and Trace32 SW tool by using it to debug different drivers. Learned to use different functionalities of lauterbach debugger like trace, breakpoints etc.,
- ♦ Collaborated closely with global hardware, system and test teams for resolving bugs in HW, development and bring up of HW modules and requirement update.
- ♦ Resolved issue faced by HW Supplier team by debugging and providing necessary inputs.

## ● TOOLS

Oscilloscope, Trace32, Git, Jira, Bitbucket, CCS studio, Agile & Scrum SDLC, SPIICE.

## ● EDUCATION

AUG 2012 – JUN 2016

**Bachelor of Engineering, Maharashtra Institute of Technology, Pune.**

- ♦ Achieved B.E. degree in **Electronics and Telecommunication** with 68.11% aggregate score.

## ● ACHIEVEMENTS

- ♦ Received **project of the quarter** award in Cummins from Electronics Department Director by achieving 95% customer satisfaction.
- ♦ Achieved rank in **TOP 10 performer** in Texas Instrument's winter challenge 2015.
- ♦ Achieved NCAT (National Creativity Aptitude Test) AIR 30 in 2014.