

Surya Vardhan

Senior Software Developer

As an experienced firmware engineer, I have a track record of successfully developing four high-quality products from initial concept to market, reducing development time by 35%. I specialize in developing device drivers for real-time operating systems using object-oriented C and have a strong understanding of communication protocols, including I2C, SPI, and CAN. I am highly motivated to tackle new challenges and drive the growth of my company, while continuously expanding my skills and knowledge.

WORK EXPERIENCE

Senior Engineer - Software Design

04/2022 - Present

Mistral Solutions Pvt Ltd

- Involved in full SDLC processes including requirements, design, coding, testing, release, debugging, maintenance, and documentation.
- Utilized agile methodology and actively participated in scrum calls and retrospection meetings.
- Ported MMCSO device driver for AM263 Sitara-based microprocessors using TI Code Composer Studio in 3 months.
- Accelerated test farm integration by 25% for Jacinto processor-based development boards for automation testing in the Linux environment.
- Experienced in using JIRA, Bitbucket, Confluence, and GIT for SVN.
- Created board-specific boot binaries for AM68 using device tree files for Linux-based board bring-up and interface integration.
- Contributed to technical recruitment efforts for hiring tech experts.

Embedded Software Engineer

07/2021 - 02/2022

Nash Tech Labs

- Led a team of 5+ peers in hardware and software integration for the development of on-board chargers for electric vehicles.
- Traced circuits, analyzed system requirements, and debugged software for test logs and summary reports.
- Developed 32-bit MCU firmware using IAR and STM32 Cube IDE for 3.3kW electric vehicle charging station.
- Created technical documents including software requirements, software design descriptions, software verification, datasheets, PCB verification, user manuals, whitepapers, and brochures.
- Managed a team of 4 peers in the design and development of consumer electronics.
- Recognized as the fastest team leader in the organization for completing a project from concept to commercialization within 4 months.

Senior Embedded Engineer

08/2019 - 06/2021

Senpronics

- Developed RTOS-based C code in compliance with Mishra standards for security devices and products.
- Achieved 14% higher and stable performance in IOT-based product

CONTACT

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SKILLS

Programming Language / Scripts:

- Embedded C (Advanced)
- C++ (Experienced)
- Shell & Python
- Assembly & Bare Metal Coding

Environment Tools:

- STM32 Cube IDE
- IAR IDE
- Keil IDE
- ESP-IDF
- Code Composer Studio
- Make File

Operating Systems:

- RTOS [FreeRTOS & TI-RTOS]
- Linux (Concepts)
- IPC
- Multi-threading

Communication Protocols:

- I2C
- SPI
- UART, USART
- CAN

Hardware Debugging:

- Oscilloscope
- Multimeter
- Logic Analyzer
- JTAG, SWD
- CANoe / CANalyzer
- Spectrum Analyzer
- Schematic Design
- Soldering LQFP Pkg IC

MCU & MPU:

- 8051, ATmega328
- STM32 [ARM Cortex M0, M3 & M4]
- ESP32 & ESP8266
- AM263, AM68 & AM69 [A57 & M4]
- Teensy [NXP - MK64, MK66, iMXRT1062]

Version Control & Tools:

- GIT
- Jira
- BitBucket
- Confluence

development using multi-threading and multi-processing techniques, resulting in a 37% increase in orders.

- Reduced development costs by 26% by designing Windows software for communicating with MCUs over serial communication protocol using modeling tools such as LabVIEW.
- Materialized mission-critical products like bomb detonator jammers for the Indian Army using FreeRTOS with IPC and multithreading concepts, increasing revenue by 34%.
- Pioneered high-precision Wi-Fi transmission for high-precision DAQ, capturing 48% of the DAQ market.
- Improved firmware with a 20% increase in response time while gaining knowledge of radio frequency technology in the development of RF signal generators.
- Proposed appropriate technical solutions in Scrum meetings, based on in-depth knowledge of 16-bit and 32-bit microcontroller/microprocessor ARM architecture, resulting in a 34% increase in project velocity.

Tech Support Engineer

11/2017 - 01/2019

Tech Mahindra Pvt Ltd

- Trouble Shooting Network Related Issues and resolved 1670 technical issues for customers & clients.
- Expert in trouble shooting OSI Layer 1,2,3 devices, thus finding the root cause of an issue in less than 13 min on call.

EDUCATION

Bachelor of Engineering

05/2017

Anna University - Chennai

Field of Study in Mechatronics

CERTIFICATION

Advanced Embedded Systems

07/2019

Vector India - Chennai

INTERNSHIP

Defence Research and Development Organization [DRDO]

11/2016

Combat Vehicle Research and Development [CVRDE] - Chennai

Final Year Internship for 6 Months.

Involved in prototype development of Regenerative Braking System for ARJUN Mark-2 Main Battle Tank [MBT].

PATENT

Automated Security System and Method for Motor Bike Locking

09/2016

Application number:20164103054

Issue: 09/2016

International Classification: G08B21/00

PRODUCTS

Earthquake Detector [EMD - 1202®]

05/2020

Portable Seismic DAQ [PS-DAQ®]

12/2019

Real Time Acceleration Plotter [RTAP-335®]

01/2021

Portable Seismic DAQ [PS-DAQ®]

05/2021

ACHEIVEMENTS

Pride Pack (Outstanding Performance)

For: Excellent efforts and team work in making AM68 & AM69 SK SDK release meeting customer schedule.

By: Mistral Solutions Pvt Ltd.

LANGUAGES

- English (Fluent)
- Hindi (Fluent)
- Tamil (Native)
- Kannada (Beginner)
- Telugu (Beginner)
- Germany (A1)

SOFT SKILLS

- Strong communication
- Team Player
- Self-Starter
- Dead line driven
- Tech Inspired
- Result-oriented
- Continuous learner
- Interpersonal skills
- Adaptability
- Positive attitude
- Detail Oriented