

Bhargavi Pagireddy

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[bhargavi-pagireddy](#)

Profile summary

- Hands-on experience with industry-standard products, specializing in embedded software development and debugging.
- Expertise in coding, debugging and optimizing embedded systems firmware for performance improvement.
- Proficiency in communication protocols: SPI, I2C, UART.
- Strong experience in analysing code performance, code coverage.
- Adept at strategic planning, project management, and team collaboration.
- Knowledge of schematic analysis.
- Strong problem-solving skills in debugging and optimizing embedded systems to enhance performance and functionality.

Education

2019-2023	B.Tech (Electrical & Electronics Engineering.) with 7.6 CGPA
2017-2019	Intermediate (MPC) with 9.0 CGPA
2016-2017	SSC with 8.3 CGPA

Technical skills

ProgrammingLanguage:	C Programming, Embedded C, Data structures
IDE & Tools:	Keil4.0, Philips flash utility, Comdebug, STM32CubeIDE, Matlab/simulink, Altium (Basic)
Operating system:	RTOS
Onboard communication:	UART, I2C, SPI, CAN (Theoretical), ADC, DAC
External communication:	RS-232, RS-422, RS-485, WIFI (ESP8266)
Version control:	GITHUB, SVN

Projects

Johari digital healthcare Pune | Engineer| Sep - 2024 to Present

Enhancing Device Performance through Firmware Development and Optimization

Description: Specializing in improving device performance by developing, testing, and optimizing firmware for embedded systems with a focus on sensor integration and hardware efficiency.

Roles and Responsibilities:

- Developing and optimizing firmware for seamless sensor integration and reliable system operation.
- Conducting rigorous testing and debugging of firmware to ensure functionality, stability, and performance under diverse scenarios.
- Analysing schematics to verify hardware compatibility with firmware design and sensor requirements.

- Assembling and integrating hardware components to validate firmware functionality and overall system performance.
 - Soldering and establishing electrical connections to ensure robust hardware assembly and functionality.
 - Collaborating with design and hardware teams to recommend firmware updates for enhanced device functionality and efficiency.
 - **Hardware used:** Sensor evaluation boards, microcontroller platforms, hardware, Firmware and debugging tool
 - embedded development platforms and performance testing frameworks
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Radar technical center | Bengaluru | Student | Oct 2023 - Mar 2024

Swarm robots

- **Description:** Agriculture plays a major role in the economy of a country. The world advancing with the new technologies to improve standard of living and to make the work simple and efficiency. In agriculture field also lot of changes made & technologies comes into picture to improve crop production. In that swarm robot is one of them. To solve the socioeconomic issues that farmers encounter, an agricultural swarm robot is designed. Swarm robots are group of robots which operates in coordination to achieve a specific task. We mainly concentrate on two tasks i.e., ploughing and grass cutting. The unique selling proposition of our project is its efficiency in overcoming the power consumption barriers.
 - **Roles and Responsibilities:** Contributed to the development of firmware for the swarm robots, ensuring seamless operation and coordination among multiple units.
 - Conducted testing and debugging of the firmware to ensure reliable performance under different agricultural scenarios.
 - Collaborated with the hardware and mechanical teams to integrate firmware with the robotic systems effectively.
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Sanskriti school of engineering Puttaparthi | Student | Jan-2023 to May-2023.

Design and simulation of low power charging station for an EV

- **Description:** Designed and simulated a unidirectional onboard charger (OBC) for Electric Vehicles (EVs) to charge traction batteries using single-phase AC power grid. Developed OBC consisting of AC-DC converter and Buck type DC-DC converter to regulate charging voltage and current. Used a fuzzy logic controller to control the variable loads and solar panels are used to generate the power. Successfully designed and simulated a 210W charger for lead-acid battery (48V, 35Ah)
- **Role:** Led the team throughout the project lifecycle, from conceptualization to successful simulation and documentation.
- Integrated fuzzy logic control to enhance the charger's efficiency and adapt to variable loads effectively.
- Conducted simulations to validate the design under various operating conditions and optimize system performance.
- Coordinated with team members to ensure timely progress and adherence to project goals.
- Documented the design and simulation process, including results and insights, for future reference and scalability.
- **Tools used:** Matlab/Simulink