GANESH BHATKAR

GB

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PROFESSIONAL SUMMARY

Embedded Systems Engineer with over 5 years of experience in embedded system development, repair, testing, and debugging across electrical and electronics domains, specializing in microcontroller programming and hardware-software integration for industrial and medical applications. Proficient in C, Python, with strong skills in controller interfacing, schematic reading, and fault finding.

SKILLS

- Embedded C and Python
- Arduino programming and Raspberry Pi
- Robot Operating System (ROS)
- FreeRTOS and Microchip Studio
- AVR and PIC16F microcontrollers
- STM32F103 and STM8s003f3p6
- ESP8266 connectivity
- UART, SPI, I2C protocols
- RS232 and RS485 communication
- Modbus integration

- Schematic design and PCB routing
- Hardware testing and signal integrity
- Repair and fault finding
- Sensor and motor interfacing
- Development environments: ST Visual Studio, STM32CubeIDE, MPLAB X IDE, Keil uVision, Microsoft Visual Studio Code
- DWIN GUI development for automation applications
- Project mentorship and training
- Cross-functional team collaboration
- Debugging and troubleshooting

EXPERIENCE

Embedded software developer / Prama Instruments PVT. LTD. - Navi Mumbai, Maharashtra   *08/2024 - Current*

- Designed and developed embedded firmware for laboratory and medical devices, improving system reliability and functionality.
- Implemented and tested communication protocols (UART, SPI, I2C) to ensure seamless data exchange between hardware components.
- Debugged and optimized embedded software modules, resulting in reduction in system response time and improved device performance.
- Collaborated with cross-functional teams to integrate capacitive touch sensors and contributed to product development cycle design, enhancing overall device capabilities and user experience.

Assistant R&D Engineer / Deepak and Technic PVT. LTD. - Mumbai, Maharashtra   *04/2022 - 08/2024*

- Developed and implemented embedded software solutions for industrial control systems, improving system efficiency and reliability.
- Designed and programmed GUI interfaces for DWIN displays, enhancing user interaction and reducing operational errors.
- Conducted thorough code reviews and hardware integration testing, ensuring robust product performance and reducing post-deployment.
- Supported quality assurance and optimized I/O performance, leading to faster system response times and smoother production workflows.

Embedded Engineer / Nirvaa Solutions PVT. LTD. - Navi Mumbai, Maharashtra *08/2019 - 03/2022*

- Designed schematics and performed PCB routing for new hardware development, ensuring manufacturability and signal integrity.
- Developed Arduino-based embedded projects to meet specific client requirements, accelerating prototyping and testing phases.
- Conducted thorough hardware testing and debugging to identify faults and improve system stability and performance.
- Collected and processed Modbus device data to develop a Windows-based application, enhancing real-time monitoring and automation control capabilities.
- Developed Modbus and automation controllers, streamlining industrial process control and improving operational efficiency.

Freelance Educator & Robotics Mentor / Self-Employed *01/2017 - 07/2019*

- Delivered Arduino programming and robotics classes to students and hobbyists, enhancing their practical skills and project understanding.
- Provided guidance and mentorship to college students on project development, improving their technical knowledge and project outcomes.
- Assisted learners in troubleshooting and debugging hardware and software issues, fostering hands-on problem-solving abilities.

EDUCATION

M. Tech: Embedded Systems *01/2023*
Birla Institute of Technology Pilani - Work Integrated Learning

Bachelor of Engineering: Electronics and Telecommunication *05/2016*
SSPM's College of Engineering - Kankavli

CERTIFICATIONS

- Embedded System & Robotics, i3indya Technologies - 06/16
- Diploma in Advanced Embedded system, Embedded Technosolutions, -10/16
- Post Graduate Diploma in Industrial automation, Prolific Systems & Technologies PVT.LTD - 11/18
- PCB Design with Kicad, Udemy, Completed
- ROS2 for Beginners, Udemy, In Progress
- FreeRTOS, Udemy, In Progress