# Balaji Karthik Karukkuvelayyan
# Senior Embedded Software Developer

## SUMMARY

I am a passionate Embedded Engineer with a strong interest in both embedded hardware and software development. My experience spans across the automotive domain, particularly focusing on steering wheel switch systems. I specialize in embedded C programming, low-level debugging, and hardware bring-up and testing. I have hands-on experience working with automotive communication protocols such as LIN and CAN, contributing to both development and integration phases of embedded projects. I have taken up dual roles as a developer and integrator, ensuring seamless collaboration between hardware and software components. Proficient in using version control systems like Git and Gerrit for code management and review processes. I also have working experience with automation frameworks, especially Python-based tools, including Robot Framework for test automation and in-house tool development. My technical toolkit includes industry-standard debugging and development environments such as: IAR Embedded Workbench iSYSTEM Debugger Oscilloscopes, logic analyzers, and CAN analysers With a strong foundation in both software and hardware, I bring a systems-level understanding to embedded product development, always aiming for efficiency, reliability, and maintainability.

## TECHNICAL SKILLS

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| **Main Technical Skills** | Embedded (5 yr.), Embedded C++ (5 yr.), ESP32 (2 yr.) |
| **Industry Domain Experience** | Embedded (5 yr.) |
| **Other Technical Skills** | Embedded C++ (5 yr.), FreeRTOS, I2C, i2s, SPI, UART |

I successfully completed a part-time project for a client, developing a sound box integrated with their payment application using embedded systems. I took full ownership of both hardware and software aspects, including the complete design and implementation. The project was delivered within 2 months, earning high appreciation from the client for timely and quality execution.