DIGAMBAR PATIL

Senior Software Engineer

@ digambarjpatil143@gmail.com +91 9860150520 Pune, India in digambar-patil

EXPERIENCE

Senior C++ Developer

Dekimo Experts

Sept 2023 – Aug 2025 Belgium

- Delivered middleware platform for automotive ECU communication, acting as LIN Master Gateway.
- Implemented multithreaded, lock-free MessageBus (publish-subscribe) for sub-ms ECU frame delivery.
- Integrated MQTT/HTTP adapters with secure TLS/OpenSSL communication; sensor data monitored via Grafana, InfluxDB, Telegraf.
- Developed JSON-driven system for flexible addition of sensors, frames, and adapters.
- Built HAL/Driver abstraction layer with Open-LIN; collaborated with hardware teams for ECU testbed integration.
- Wrote unit/integration tests (GoogleTest), cross-compiled for ARM/x86, and containerized builds with Docker.
- Technologies: C++17, CMake, Linux (Ubuntu/ARM), multithreading, MQTT, HTTP, TLS/OpenSSL, fmtLib, Open-LIN, GoogleTest, Grafana, InfluxDB, Telegraf.

Principal Development Engineer

CALSOFT

Jan 2022 – Aug 2023 Pune

- Developed features for EXFO Fiber Monitoring System, enabling real-time monitoring of optical transceivers (QSFP, CFP, CFP2, CFP4).
- Implemented event handling and HAL communication between software and devices (Ethernet, I2C, SPI).
- Integrated C++ backend with user interface for seamless operation.
- Mentored junior developers and supported project workflow improvements.
- Tools: C++11/14, Visual Studio, Docker.

Embedded Developer

Harman Connected Services

Apr 2021 – Dec 2021 Bengaluru

- Developed PSA Vehicles OTA Update System for secure over-the-air software updates on automotive platforms.
- Designed rollback mechanism for reliable update recovery and implemented decryption with OpenSSL.
- Conducted testing, debugging, bug fixing, and root cause analysis to ensure software reliability.
- Participated in code reviews to maintain code quality and adherence to standards.
- Tools: C, C++11/14, Linux, Integrity (RTOS), Gerrit, Source Insight.

Embedded Software/Firmware Developer

UST Global

March 2019 – Feb 2021 Malaysia

- Developed Location Information Protocol (LIP) firmware for Motorola radios enabling real-time location tracking, emergency reporting, and distance reporting, ensuring reliable communication under various conditions.
- Implemented secure Wi-Fi certificate management using XCMP, RSA key generation, X.509 certificates, and OpenSSL, strengthening device authentication and network security.

PROFILE

12+ years of experience developing robust embedded applications and middleware in C/C++ across automotive, telecom, and consumer domains. Skilled in Linux/RTOS environments, real-time systems, debugging, and bridging low-level drivers with user-facing software.

TECHNICAL SKILLS

C/C++ | C++11 | C++14 | C++17 | Python | Concurrent Programming | Linux | RTOS | ARM | x86 | CAN/PCAN | UART/I2C/SPI | LIN/OpenLIN | MQTT | TLS/SSL | openssl | GIT | Docker | Visual Studio | Qt | Source Insight | Middleware Integration | Grafana | InfluxDB | Telegraf | GTest | GDB | Valgrind | Coverity | CI/CD | Agile

EDUCATION

Postgraduate Diploma – Embedded Systems Design

CDAC Pune, India

Feb 2012 – Aug 2012

Bachelor of Engineering (B.E.) in Electronics

Shivaji University of Kolhapur, India

2007 – 2011

PROFESSIONAL AFFILIATIONS

Associate

Wireless Community – imec

Leuven, Belgium

- Participate in seminars and discussions on IoT and wireless technologies; collaborate on innovation-focused projects

Associate

Belgian C++ Users Group (BeCPP UG)

Leuven, Belgium

- Attend modern C++ meetups, network with 50–70 developers, and stay updated on industry trends.

- Built a Qt-based ASDA Locker System middleware for online grocery pickup with secure JSON-driven data storage and retrieval; added intuitive features like “Clean lockers,” “Collect before loading,” and “Collect” to enhance user experience.
- Designed middleware and firmware components with reusable and modular architecture, improving maintainability, scalability, and integration across multiple embedded systems.
- Conducted unit and integration testing, static analysis (Coverity, Klocwork), debugging, and collaborated with cross-functional teams for documentation, deployment, and quality assurance.
- Tools: C, C++11, Qt Framework, Linux, Git, Bitbucket, RTC, OpenSSL, CANOE, JSON.

Embedded Developer

Capgemini

Mar 2016 – Feb 2019 Pune

- Developed Generation 4 Display features for John Deere agricultural machinery using C++ and Qt Framework.
- Implemented File Manager for data import/export/deletion and Machine Monitor functionality.
- Integrated CAN protocol for transmitting runtime data to the display system.
- Conducted unit testing to ensure reliability and performance of features.
- Tools: C++, Qt Framework.

Software / Senior Software Engineer

Persistent Systems Ltd

Oct 2012 – March 2016 Pune

- Developed and maintained automated testing frameworks and utility tools in C# for IPREO web application, improving test efficiency and software reliability.
- Created internal graphics driver tools (Giraffe) in C and JavaScript for Intel, enabling performance analytics and debugging of display-related issues.
- Conducted unit and integration testing, defect tracking, and debugging using TFS and Windows Debugger to ensure correctness and system stability.
- Tools: C#, C, JavaScript, Visual Studio, Coded UI Test, TFS, Windows Debugger.