**Amol Dhumal**

Embedded Software Developer **LinkedIn:** [linkedin.com/in/amol-dhumal1](https://www.linkedin.com/in/amol-dhumal1/)

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# ▼ Professional Summary

* More than 6.5 years of experience in embedded software design, development & validation.
* Experience in team handling of 10+ members & client - offshore team coordination.
* Hands on experience in embedded application & device driver development – CAN, UART, I2C, ADC, SPI, Timer, etc. for different microcontrollers.
* Good understanding of the AUTOSAR & non AUTOSAR BSW architecture.
* Experience in ADAS ECU BSW Analysis & understanding of the ADAS vehicle features.
* Good Experience in CAPL scripting & Canoe Panel Design.
* Hands on experience in embedded hardware –setup creation, board bring up activity.
* Good experience in C/ CAPL based utility development & approach preparation.
* Good understanding of the electric charging standards – CHAdeMO, DIN 70121.

# ▼ Tools & Technology

* **Software:** Vector Tools (CANoe, CANape, CANalyzer, ASAP2Editor, vCDM Studio), GHS Multi, Visual studio (C, C++), CCS, TRACE32, STM32CubeIde, Keil MDK, KSAR Editor, EB Tresos etc.
* **Hardware:** RAMScope, DDT2000 diag tool, TI MCU, AURIX TC397x, RCAR-V2, RH850, ARM Cortex M4, JTAG, Lauterbach, SWD – Debuggers, Logic Analyzer, Digital Oscilloscope, Renesas E1 Emulator etc.
* **RTOS:**  GHS Integrity, Osek , FreeRTOS

## ▼ Experience

**ADAS BSW Design Analysis** Oct 2019 to Present

*Tata Consultancy Services Ltd. Tokyo, Japan*

* Core reallocation approach preparation & implementation for Multicore ECU (ADAS ECU).
* Designed & developed the CPU Load calculation algorithm & tool for AUTOSAR based ECU.
* Responsible for A2L creation, Par file merging & PDX file generation.
* Responsible for timely & defect free delivery of different SILS testing activities like functional, failsafe, interface, signal compare testing & BSW related activities.
* Designed & Developed C++ based converter tool for C1N to C1A-HS specification conversion.
* ADAS BSW environment setup & validation approach creation for different vehicle program.
* Worked on static & dynamic analysis of the COM stack, CPU Load, Watchdog timer, OS, Task design, memory protection, RAM-ROM consumption, CPU load with with/without FOTA
* Additional responsibilities like customer & offshore team coordination, understanding the customer requirements, supporting to the proof of concept (POC) activities.

**ADAS BSW Static & Dynamic Analysis** Nov 2018 to Sept 2019

*Tata Consultancy Services Ltd. Pune, India*

* Responsible for ADAS BSW environment preparation, Source code integration & ECU flashing.
* Responsible for the CAN stack validation. It includes CAN gateway latency analysis, Buffer overflow analysis, CAN stack parameter configuration analysis, etc.
* Analysis & validation of the Inter CPU communication.
* Responsible for the approach & test cases creation for the CAN stack validation.
* Analysis of AUTOSAR & Non-AUTOSAR based BSW ADAS ECU source code for CAN, SPI & watchdog implementation.

**Wireless (CAN to Wi-Fi) Adaptor Development** May 2018 to Oct 2018

*Tata Consultancy Services Ltd. Pune, India*

* Responsible for the Bootloader design & development for TI TMS320F280049 MCU.
* Responsible for board bring up & device driver development like CAN, UART, Timer and SPI.

**CHAdeMO Protocol Test tool (CPT) Development for CHAdeMO**  Nov 2016 to April 2018 **compliant EV & EVSE**

*Tata Consultancy Services Ltd. Pune, India*

* Mainly responsible for overall MCU firmware design & development.
* Responsible for board bring up & hardware design validation.
* Developed Applications, HAL layer & device drivers for WDT, SPI, CAN, UART, Timer, ADC.
* Bootloader design & development for TI TMS320F28069 MCU

**Retrofit Adapter Development to charge CHAdeMO compliant EV using** Feb 2016 to Oct 2016

**DIN compliant EVSE**

*Tata Consultancy Services Ltd. Pune, India*

* Developed CAN & ADC driver development for microcontroller TI AM3358.
* Responsible for the system test case plan creation & execution.
* EV simulator state machine implementation using CAPL script.
* Played support role in various activities like board bring up, hardware testing, application development, driver development, debugging, bug fixing, testing etc.

# ▼ Education

**M.E.-ELECTRONICS ENGINEERING,** GOVERNMENT COLLEGE OF ENGINEERING, AURANGABAD

77.00% - **2013-2015**

**B.E.-BIOMEDICAL ENGINEERING,** BIGCE, SOLAPUR

75.60% - **2009-2013**

## ▼ Key Achievements

* TCS, India - **On the Spot Award** for the contribution in BSW project
* TCS, Japan - **Star Team award** for BSW project
* CHAdeMO & NISSAN , Japan – Appreciation received for the CPT Tool development.