Ahmed A.
Senior Autosar Diagnostics Engineer

SUMMARY

- For the last 5 years working with different OEMs on different projects - Mainly specialized in BSW integration and configuration and was diagnostics responsible for several BMW, RSA, and PSA projects. - Analyzing and resolving classic AUTOSAR BSW issues. - Providing different customers with AUTOSAR support and coaching. - Configuring different communication stacks. (CAN, LIN, FlexRay, and Ethernet protocols) - Integrating Vector's Bootloader, Bootloader Manager, and Bootloader updater. - AUTOSAR training (Communication, Memory, and Diagnostics stacks). - Experience with different OEM modules (BMW, DAIMLER, and GM) - Fluent English - Basic German - Available from 25.07.2022

TECHNICAL SKILLS

Main Technical Skills	AUTOSAR, Diagnostics
Programming Languages	C, C#, C++, Java, JavaScript, PHP, Python
Databases & Management Systems / ORM	SQL
UI Frameworks, Libraries, and Browsers	CSS, HTML
Version Control	Git
Third Party Tools / IDEs / SDK / Services	Trace32 LauterBach
Other Technical Skills	Caneo, CANoe, CAPL, Core ALM, Davinci configurator, DaVinci Developer, Diagnoser, E2 Stu, EB Tresos, ISYSTEM, NXP S32k118, Renesas RH850, Tresos, Winidea

EXPERIENCE

AUTOSAR Software Engineer, WAYS GmbH (external employee in VECTOR Informatic)

July 2019 - Present

Main tasks:

- Providing customers with AUTOSAR support and coaching.
- Analyzing and resolving classic AUTOSAR issues.
- Configuring, integrating, and testing the latest BSW modules released by Vector by creating a StartApplicaton project to test the SIP before sending it to customers.
- Integrating Vector's Bootloader, Bootloader Manager, and Bootloader updater.

- Configuring different communication stacks. (CAN, LIN, FLexray, and Ethernet protocols)
- Testing Vector SW on different evaluation boards and Customer Hardware with different derivatives. (RH850, Aurix, S32K, SPCxx)

Embedded Software Engineer, Valeo

September 2017 - June 2019

Took a part in the following Projects:

PSA DPE P4P5:

Description: Human-machine interface ECU which was responsible for different functionalists like controlling heat seat, ADAS, and lightning.

Responsibilities:

- Configuring AUTOSAR 4.3 Memory components: Nvm, MemIf and Fee.
- Configuring AUTOSAR 4.0 Communication components: ComM, Com, PduR, CanSM, CanTp
  and CanIf.
- Configuring AUTOSAR 4.2 MCAL components for NXP S32K118 target: Can and Fls.
- Implementing Network Management according to PSA Non-AUTOSAR requirements.
- Implementing Canoe Simulation.

BMW FZD F40:

Description: Dome module which was responsible for gesture movements to control multimedia, controlling roof, and anti-theft alarm.

Responsibilities:

- Configuring DCM AUTOSAR 4.0 module (Diagnostics Communication Manager) and implementing end-of-line DIDs and routines.
- Integrating and testing standard components like ROMTest, RAMTest, and CPULoad.
- Planning and Executing real-time tests.
- Testing Gesture stack (Gateway between Camera on Gesture board to our Mainboard)
- Testing SIREN AUTOSAR Application component.
- Familiar with BMW Tools and tests: E-SYS, EDIABUS, FAT, and ZST.

Freelancer, Bridging the gap between Embedded systems and mobile applications

March 2017 - September 2017

- OBD Sniffing android app to read current data and clear trouble codes.
- Sniffing on a truck SAE J1939 bus to send Speed and RPM data to a server as input for an
  algorithm to calculate the truck weight while it's moving.
- Real-Time Data "Asset" for UNITY Platform to use ELM327 device to read Speed and RPM data
  from OBDII port and use them in any project.
- Used TKINTER and PYTHON to implement a GUI on a Raspberry pi to monitor a worker on a
  machine and show the actual vs the expected target per 8 hours shift.

- Using GSM and RPI to notify specific voice messages according to the SMS sent for Boat Rentals.

Functional Safety Engineer (Intern), BrightSkies Technologies

January 2017 - February 2017

- Applied ISO 26262 functional safety standards on an ADAS project (adaptive cruise control).
- Test cases planning & execution on the ECU using the debugger and automated scripts written in
  python.

R&D Engineer (Part-time), Ofaly

January 2016 - December 2016

- Newspaper vending machine Al-Masry Al-Youm: A full mechatronic system to automate the newspaper selling process. A newspaper passes out from the machine according to the signals sent from a coin acceptor connected to an ATmega32 microcontroller. Demo Video
- Autonomous boat: Research project in order to drive a boat in the river autonomously using a sensor
  fusion between Computer Vision and RADAR.
- Fingerprint attendance system: Using finger print module with RPi for submitting attendance
  and also unlocking company doors.
- Self-service kiosk: ATM machine with coin and cash acceptors for recharging phone credit and
  using all FAWRY services.

PERSONAL PROJECTS

Autonomous QuadCopter (Graduation project - Grade: A)

June 2016 - June 2017

A completely autonomous flying drone equipped with camera and monitoring sensors that enable obstacle detection and avoidance. The environmental application is the following drone that keeps tracking a specific person using a camera and GPS.

Car Hacking tool for penetration testing

April 2017 - May 2017

Implemented CAN bus sniffing and spoofing tool using OBD tool using ELM327 interfacing tool.
(Tested on Opel Astra 2016 and Suzuki SX4 2008)

TECHNICAL TRAININGS

- AUTOSAR Bootcamp (Introduction to most of AUTOSAR Stacks)
- AUTOSAR Application SW
- Diagnostics (UDS Protocol)
- Debugging Embedded Systems
- ROS summer school (Studied ROS (Robotics Operating Systems) at FH Aachen university in
  Germany for two weeks)

EDUCATION

Vector Academy, Germany

January 2020 - July 2020

Vector CSP-E certified

This course is designed to help engineers working in the field of classic AUTOSAR basic software to
develop a deeper understanding of AUTOSAR-related Vector products.

Alexandria University, Egypt

September 2012 - June 2017

B.Sc. in Computer & Communications Engineering

Overall GPA: 3.5 / 4.0 (Excellent)