Melvin "Mel" Malabanan

Software Engineer

📞: 706 – 577 – 6827 | ✉: mmalaban@hotmail.com | in: linkedin/mmalaban

Professional Summary

Highly motivated professional with over 11 years of experience in embedded software engineering and 12 years in the automotive industry. Skilled in project management, leadership, team building, customer support, communication, and customer relations. Able to thrive under pressure and meet tight deadlines. Has developed strong skills in managing projects, leading and motivating teams, providing excellent support to customers, effectively communicating with stakeholders, and building positive relationships with clients. Confident to take on new challenges and deliver high-quality results in a fast-paced environment.

Skills

Project management
- Software Development Lifecycle
- Agile / Scrum
- Mentorship
- Issue tracking

Embedded Systems / Software
- Build manager / environment
- Debugging
- Unit testing
- Schematic reading
- Schematic analysis

AUTOSAR
- Basic software configuration
- Communication stack
- Diagnostic stack
- Memory stack
- MCAL configuration

Programming Languages
- C / C++ / C#
- Python
- Rust
- CAPL
- Make

SW Configuration Management
- Git
- SVN
- Bitbucket
- Github
- SAccurev

Protocols
- CAN
- SPI
- UART
- UDS
- I2C

Microcontroller
- Infineon TC2xx / TC3xx
- TI Tiva C (TM4x)
- Freescale (MPC56/7xx)
- Renesas v850/RH850
- NXP S32K
- STM32

Tools
- VS Code
- Visual Studio
- Understand for C++ (Scitool)

Work Experience

Sr. Software Engineer — IAV, Inc., Northville, MI — May 2022 - Now

- Requirements generation for a range of projects, customers and products
- Software Architecture design for range of projects and customers
- Design, implement and test safety related embedded software
- Work closely with the customer to bring up and debug new hardware
- Support architecture design and development
- Develop software in an ASPICE compliant process
- Develop device drivers and middleware for interfaces like CAN, LIN, etc.
- Review software requirements with the customer (internal & external)
- Implement software functions based on requirements
- Participate in SW code reviews
- Create SW documentation
- Support validation test plan creation
- Execution of software validation test plans
- Review test case results
- Implement change based on test cases results and change requests
- Support planning and execution of engineering activities as directed by supervisor or senior team members
- Support customer meetings
- Support business and strategic company development opportunities
- Demonstrate a willingness to learn and build technical knowledge and ability
- Maintain ISO required documentation, project diary, open issues list, task management system (i.e. JIRA) for multiple projects

Sr. Software Engineer I — BorgWarner, Inc., Auburn Hills, MI — April 2017 – May 2022

- Owner of the AUTOSAR diagnostic stack and other software modules for a variety of projects
- Worked closely with System Engineering team to gather, identify, and clarify software requirements specifically on diagnostics (UDS, OBD and some fault management) software modules
- Worked closely with Software Architect to design the software modules
- Implemented/developed software based on the identified requirements and design
- Unit tested the developed software based on the design
- Coordinated with the testers and validators on testing the diagnostic features of the system
- Managed the diagnostic features (application, infrastructure, otherwise) releases according to the project manager and customer expectations

Project

For the capstone project at the University of Michigan - Dearborn, an autonomous lawnmower was created. The robot was designed to navigate a designated area using various sensors, such as GPS and a USB camera, until the area had been mowed. It would avoid any obstacles in its path. See link for details.

Education

University of Michigan, Dec. 2011
Dearborn, MI
   Bachelor of Science in Electrical Engineering
Schoolcraft College, May 2008
Livonia, MI
   Associates In Engineering

Certificates / Training

ASPICE Fundamentals
Scrum Master (CSM)
Functional Safety (ISO 26262)
Cybersecurity (ISO 21434)
Vector
   Microsar – AUTOSAR solution
   CANoe / CANalyzer / CAPL
   Diagnostics UDS (ISO 14229)
Python
   Programming for Everybody
   Python Data Structures
HarvardX - TinyML Fundamental

Software Engineer II	BorgWarner, Inc., Auburn Hills, MI	November 2015 – April 2017

- Determined customer requirements for embedded software development
- Integrated software using AUTOSAR Basic Software with GM SUM for All Wheel Drive electronic control module
- Focused on CAN networks, UDS diagnostics, cyber-security, ECU power moding, and fault management
- Involved in ECU requirements engineering, software design, software testing, and software release
- Verified hardware design and schematics

Project Engineer	Vector, Inc., Novi, MI	June 2012 – November 2015

- Determined customer requirements and performed embedded software CAN stack integration
- Managed overall project
- Troubleshooted software and other issues with customer's implementation and provided technical support for embedded software
- Met with customers regularly to establish positive, long-term relationships
- Worked with product developers and test engineers at OEMs and suppliers

Electronics Engineer	Denso Int'l Am., Inc., Southfield, MI	September 2011 – June 2012

- Reviewed and understood customer requirements, specifications, drawings, and engineering changes for Memory Seat Module
- Completed test requests and analyzed data to perform product testing from vehicle checks to design validation to product validation testing
- Participated in benchmarking activities
- Assisted in the creation of technical reports and presentations

EMC Test Engineer	Yazaki N.A., Canton, MI	May 2010 – August 2011

- Tested various automotive products for electronic interference across a range of frequencies, including the AM band and GPS bands
- Reviewed customer specifications and standards with supervisor and/or customers to ensure correct test implementation for engineering development, design verification, product verification, and annual verification
- Internship

Infantryman	U.S. Army, Fort Benning, GA	DD-214 available upon request

Performed as a member of a fire team during drills and live combat, learned and used different combat systems.