BALA SRIKAR KODALI

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**CAREER SUMMARY: Mechatronics Engineer**

Mechatronics Engineer with Good Knowledge in Embedded systems, Software testing Procedures and Agile Methodology. Skilled in Model based Design, Hardware in loop and Functional Safety. Quickly and accurately learn and perform complex tasks. Strong team player with the proven capability to multitask.

**TECHNICAL SKILLS:**

* Programming languages: C, MATLAB, python (Automation Scripting), C++.
* Microsoft applications: Word, Excel, PowerPoint.
* Communication Protocol: CAN, SPI, I2C, UART.
* Operating systems: Linux, Windows.
* Hardware: Woodward ECUs, Kvaser CAN.
* Software: Simulink, MotoHawk (Model-based Design Tool), MotoTune

(Calibration Tool), CanKing, HiL Systems, DOORS, CANalyzer.

**EXPERIENCE:**

**Designation: Validation Engineer Jan 2021- present**

**Harman International**

* Used IBM DOORS configuration management platform for managing the requirements
* Performed Functional, diagnostic and Fault injection testing on Amplifier ECU.
* Involved in writing test cases for the requirements given by the customer.
* Verified CAN messages using CANalyzer and CANoe.
* Documented and collected CAN logs for issues found during testing and escalated to software team.
* Performed flashing of ECU software in vehicle and capture the failure logs.
* Involved in creation of DVP&R and traceability from requirements to testing.

**Designation: Graduate Teaching Assistant May 2020- Dec 2020**

**Oakland University**

* Responsible for grading assignments, class participation, and exams.
* Managed course content through online Learning management systems.
* Designed and maintained individual course sections via moodle.
* Provided students with one-on-one tutoring and regular out of class assistance.

**Designation: Functional Safety &Controls Engineer Trainee Jun 2019 – March 2020**

**LHP Engineering Solutions**

* Involved in designing PI Engine Control system using MotoHawk, Simulink.
* Calibrated instabilities encountered in feedback PI control system using MotoTune calibration tool.
* Used Model based Approach for development and Validation of the project.
* Implemented Control Algorithm Model in Simulink and generated C code using Embedded Coder.
* Implemented Model in Loop (MIL), Software in Loop (SIL) and Processor in Loop (PIL) to verify, validate the model and code.
* Developed test plans for system safety verification and validation.
* Implemented the ISO 26262 work products ASIL, FMEA, FMEDA, FTA, HARA, Safety Goals, FSR, and TSR.
* Gained working knowledge regarding Hardware and Software clauses in ISO 26262.
* Learned about different faults encounter in the Hardware product development and how to mitigate them.

**Designation: Validation Engineer**

**Quest Global Engineering Solutions Jan 2018- Dec 2018**

* Used IBM DOORS configuration management platform for managing the requirements
* Performed Functional testing on in-vehicle Infotainment features.
* Verified CAN messages using CANalyzer.
* Documented and collected CAN logs for issues found during testing and reported using Jira.
* Performed flashing of ECU software in vehicle and capture the failure logs.
* Involved in creation of DVP&R.

**Designation: Engineering Intern April 2017- Aug 2017**

**Medha Servo India**

* Supported in designing PID Motor Control system using MATLAB Simulink.
* Used Model based Approach for development of motor controls.
* Supported Implementing Control Algorithm Model in Simulink and generated C code using Embedded Coder.

**Projects:**

**CAN Bus Intelligent Safety System for Vehicle:**

* Created system to control different ADAS features which focuses on vehicle safety using Arduino Microcontroller.
* Used CAN-Bus system which three nodes intercommunicate with each other to control system components
* Measured various parameters within the vehicle to ensure safety like object detection for collision prevention and parking, vehicle head light control based on light sources in field of view.
* Also measured temperature for Engine cooling system, crash responses for impact level detection

**Functional Safety (ISO 26262) Test on ETC**

* Learned about functional safety standard ISO 26262 and how to apply quality checks on automotive systems
* Implemented the ISO 26262 work products ASIL, FMEA, DFMEA, FTA, HARA, Safety Goals, FSR, and TSR
* Determined the Automotive Safety Integrated Level for different hazardous cases
* Applied functional safety techniques to validate tests on electronic throttle to avoid unintended acceleration

**Distributed Control System for Electronic Throttle and CAN Communication**

* Developed a feedback PI electronic throttle controller using Simulink and MotoHawk blocks
* Calibrated the control system using MotoTune calibration tool
* Tested and validated the controller using throttle valve
* Learned about the instabilities encountered in feedback PI control system and ways to eliminate them
* Controlled remotely the ETC using CAN Communication.

**EDUCATION:**

**Oakland University**, **Master of Science in Mechatronics Engineering**  *Grad- Dec2020*

**KL University**, **Bachelor of Science in Mechanical Engineering**  *Grad-April2018*

**PUBLICATION:**

* Thella Babu Rao, K. Dinesh Kumar Reddy, Srikar, M. Prasanna Krishna and Ch. Pavan Kumar, Simultaneous Optimization of µ-EDM Parameters for Machining Inconel 718 Super Alloy, International Journal of Mechanical Engineering and Technology, 9(5), 2018, pp. 436–444.