|  |  |  |
| --- | --- | --- |
|  | **Mohammad Hassan**Dearborn, United Statesmhage82@gmail.com • +1-2482502998linkedin.com/in/hassan-9b12111b/Personal Details:Date of Birth: 04/09/82 Nationality: US Citizen • Gender: Male • Civil Status: Married |  |

**Senior Embedded Software Engineer**

**Software Testing – Project Management – Software Engineering**

|  |  |
| --- | --- |
| **Team Leadership****Project Planning & Analysis****Software Development****Solutions Designing****Applications/Solutions Testing****Agile Development****Quality Assurance & Control****Technical Troubleshooting****Management Reporting** | Tech-savvy software engineer with expertise in design and refactoring of innovative and robust software solutions.Proven success in executing projects involving architecture and software development, implementation, testing, and deploymentConsistently employ collaborative development methodologies to deliver breakthrough technologies and ensure optimal performance on complex projects and technical initiatives.Ability to align technical goals with business objectives by utilising mix of research, analysis, strategic planning, cost control, agile methodology, simulation, and prototyping.Possess excellent, analytical, interpersonal, and cross-functional skills combined with a knack to excel in challenging work environment. |

**Professional Experience**

**FORD MOTOR COMPANY ⎯** Dearborn, United States 10/2014 - Present

**Embedded Software Engineer**

Support internal teams and external software suppliers by defining specifications and requirements. Debug software and conduct regression testing by designing and rolling out virtual hardware platform; additionally, develop customised Python library for virtual hardware platform. Lead initiative for creating engine control software by utilising C programming and Simulink models to accurately highlight engine’s position and speed.

* Saved estimated **$100K** in development costs for department by creating python library for virtual hardware platform.

**ZF STEERING SYSTEMS ⎯** Northville, United States 08/2012 – 10/2014

**Embedded Software Engineer**

Formulated ISO26262 compliant safety critical requirements as well as specifications. Employed C programming and Simulink models to designed electrical steering system control. Emulated hardware nodes detrimental in software testing through CAN-based hardware simulation. Created test cases to ensure software coverage by leading hardware in loop test team.

* Reduced software development by **30%** through creation of hardware abstraction layer to mainstream development of low-level drivers and reduce number of versions to support various hardware platforms.

**BHTC INC ⎯** Wixom, United States 09/2011 – 08/2012

**Embedded Software Engineer**

Designed, developed, and debugged low level drivers and gained valuable insights into CAN communication as well as vector tools for CAN logging/simulation. Secured CAN logs by utilising CANoe, leveraged panel simulation for debugging, and built panels to support engineers with simulation, also prepared CAPL scripts to simulate vehicle nodes. Enabled developers to conduct unit tests various software features by creating PC based tools.

* Collaborated with manufacturing department to reduce defects rate to **10 Parts Per Million** by creating simple and easy to use C# based GUI, allowing line workers to execute new test cases and catch defects.

**EXIDE TECHNOLOGIES ⎯** Alpharetta, United States 01/2011 – 09/2011

**Embedded Software Engineer**

Formed innovative design decisions and led development as well as implementation of low-level drivers and high level applications. Employed uIP TCP/IP stack for creating and enforcing embedded web server to dynamically acquire IP address using DHCP protocol. Designed low level drivers for SPI and serial flash/CAN interface as per microcontroller’s memory and speed limit. Developed CAN based firmware update application, enabling master unit to update slave units with new firmware and all adjustments. Rolled out Ethernet based firmware update application, supporting user to upload new binary file, update firmware, and calibrate system.

* Catalysed innovation of new solutions, enabling the company to procure business in Millions of Dollars for cell phone towers power back-up systems from AT&T.

**PANASONIC AUTOMOTIVE SYSTEMS ⎯** Peachtree City, United States 11/2008 – 01/2011

**Embedded Software Engineer**

Oversaw QNX OS low level driver development for various peripherals, including SPI for multi-processor communication, I2C, I2S, managed NAND (eMMC) driver, LCD interface driver, and rear view Video camera app. Managed high level applications development under QNX and WINCE for HMI interface application to effectively manage multimedia devices and rear view camera app. Formed collaboration with hardware team on new board bring-up, testing, validating, and debugging assembly, hardware, firmware, and software elements.

* My work on prototyping using development boards helped Cut cost and development time on developing multiple versions of hardware through prototyping to allow software to be tested prior to on boarding.

**Technical Proficiencies**

|  |  |
| --- | --- |
| **Languages, Tools, and Technologies**: | Applications Development, Advanced Drivers, Embedded Software, JavaScript, Python, QNX, DHCP, MODEM, TCP, C, C++. |

**education and certifications**

CENTRAL MICHIGAN UNIVERSITY, Michigan, USA

**Master's Degree in Engineering Management**

UNIVERSITY OF MICHIGAN, Michigan, USA

**Bachelor of Science in Electrical and Computer Engineering, Electrical and Computer Engineering**

 **Personal Projects**

* Design and implementation of a remote-controlled surgical camera. A local wireless network is created where users can log in from any browser and view a live video stream. The server implemented using node.js. The camera can pitch, roll, and has a gimbal style stabilizer
* Design and implementation of a ***Digital Heart Rate Monitor*** integrated with a ***Bluetooth alert module****.*

* Interface with a 3G modem and establish a secured connection with a server to send vehicle monitoring data.
* USB interface for keyboard, mouse, and joystick.